

JPRS 83512

20 May 1983

Worldwide Report

ENVIRONMENTAL QUALITY

No. 397

FBIS

FOREIGN BROADCAST INFORMATION SERVICE

NOTE

JPRS publications contain information primarily from foreign newspapers, periodicals and books, but also from news agency transmissions and broadcasts. Materials from foreign-language sources are translated; those from English-language sources are transcribed or reprinted, with the original phrasing and other characteristics retained.

Headlines, editorial reports, and material enclosed in brackets [] are supplied by JPRS. Processing indicators such as [Text] or [Excerpt] in the first line of each item, or following the last line of a brief, indicate how the original information was processed. Where no processing indicator is given, the information was summarized or extracted.

Unfamiliar names rendered phonetically or transliterated are enclosed in parentheses. Words or names preceded by a question mark and enclosed in parentheses were not clear in the original but have been supplied as appropriate in context. Other unattributed parenthetical notes within the body of an item originate with the source. Times within items are as given by source.

The contents of this publication in no way represent the policies, views or attitudes of the U.S. Government.

PROCUREMENT OF PUBLICATIONS

JPRS publications may be ordered from the National Technical Information Service, Springfield, Virginia 22161. In ordering, it is recommended that the JPRS number, title, date and author, if applicable, of publication be cited.

Current JPRS publications are announced in Government Reports Announcements issued semi-monthly by the National Technical Information Service, and are listed in the Monthly Catalog of U.S. Government Publications issued by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Correspondence pertaining to matters other than procurement may be addressed to Joint Publications Research Service, 1000 North Glebe Road, Arlington, Virginia 22201.

20 May 1983

WORLDWIDE REPORT ENVIRONMENTAL QUALITY

No. 397

CONTENTS

WORLDWIDE AFFAIRS

Briefs

USSR, Finland Studying Baltic Pollution 1

ASIA

AUSTRALIA

West's Tight Controls Over Pesticides Described
(Janet Wainwright; THE WFST AUSTRALIAN, 8 Mar 83).... 2

Oil Companies Pay in Bass Strait Pollution Damages Suit
(Paul Molloy; THE AUSTRALIAN, 1 Mar 83)..... 3

Conservationists Attack Government's Environmental Record
(Brendan Donohoe; THE AUSTRALIAN, 2 Mar 83)..... 4

Labor Government's Policies Will Protect Environment
(Bill Ord; THE COURIER-MAIL, 9 Mar 83)..... 5

Arrests, Protests Over Franklin River Dam Continue
(Various sources, various dates)..... 6

Opposition of Democrats
Switch in Union Position, by Bill Ord
New Arrests, by Peter Dwyer
Appeal of Scientists, by Jane Ford

Canberra, Tasmania Draw Battle Lines Over Franklin (THE COURIER-MAIL, 7 Mar 83; THE AGE, 8 Mar 83).....	8
Political Implications Hawke's Role, by Simon Balderstone	
Secret Tasmanian Report Shows 20 More Dams Planned (THE COURIER-MAIL, 25 Feb 83).....	10
National Park Said To Be Damaged by Logging (Rosslyn Beeby; THE AGE, 11 Mar 83).....	11
Drought Brings Livestock Herds to Lowest in 12 Years (Ken Haley; THE AGE, 11 Mar 83).....	12
Briefs	
NSW Chemical Controls	13
Union Asbestos Ban	13
2,4-D Herbicide Spraying	14
Greenpeace Visitor	14
Environmental Vote	14

INDIA

Increasing Concern Over Yamuna River Pollution (KHALEEL TIMES, 18 Apr 83).....	15
---	----

NEW ZEALAND

Government Confirms Maori Fishing Reefs Polluted (THE PRESS, 19 Mar 83).....	16
Briefs	
Erosion Threatens Food Production	18

PHILIPPINES

Soil Erosion, Inorganic Fertilizers Threatening Food Production (BULLETIN TODAY, 10 Apr 83).....	19
Mercury, Lead Found in Fish (PHILIPPINES DAILY EXPRESS, 13 Apr 83).....	20
Manila Pollution Levels Decrease (PHILIPPINES DAILY EXPRESS, 9 Apr 83).....	21
Six Beaches Found Polluted (M.C. Rodriguez; BULLETIN TODAY, 2 Apr 83).....	22

River Pollution Authorities Warn Offenders (Marcia C. Rodriguez; BULLETIN TODAY, 4 Apr 83).....	23
Forty Polluted Rivers Termed 'Dead' (BULLETIN TODAY, 7 Apr 83).....	24
Briefs Pollution Reduces Rice Yield	25

EAST EUROPE

CZECHOSLOVAKIA

Article Notes Environment Requires Same Diligence as Production (Eng Pavol Stehlo; ROLNICKE NOVINY, 30 Mar 83).....	26
---	----

LATIN AMERICA

GRENADA

Briefs Environmental Council	28
---------------------------------	----

MEXICO

Dangers Seen in New Water Wells for Metropolitan Area (Miguel Cabildo; PROCESO, 4 Apr 83).....	29
---	----

PERU

Effects of Natural Disasters Assessed (EFE, 11 Apr 83).....	34
--	----

SUB-SAHARAN AFRICA

KENYA

Threat to Forest Land Reported (THE STANDARD, 22 Apr 83).....	35
--	----

SOUTH AFRICA

Government Blamed for Water Crisis (THE STAR, 21 Apr 83).....	36
Lack of Foresight in Plans, by Stephen McQuillan State Ignored Water Threat, by Stephen McQuillan	
Government's Emergency Drought Plan Comes Under Fire (Stephen McQuillan; THE STAR, 20 Apr 83).....	39
September Rainfall Seen Crucial to Survival of Area (THE STAR, 21 Apr 83).....	41
Durban's Water Supply Continues to Diminish (THE DAILY NEWS, 18 Apr 83).....	42
Plan To Reverse Flow of Vaal River Reported (Stephen McQuillan; THE STAR, 19 Apr 83).....	43
New Dam To Be Built Against Drakensburg Escarpment (Sheryl Raine; THE STAR, 21 Apr 83).....	44
'Merciless' Drought Ravages Northern Cape (Mike Hewitt; SUNDAY TIMES, 17 Apr 83).....	45
Drought Causes Starvation Among Rural Children (Liz McGregor; RAND DAILY MAIL, 18 Apr 83).....	47
Game Farms Littered With Buck Carcasses (Anthea Tasker; SUNDAY TIMES, 17 Apr 83).....	48
Supermarket Chain Subsidizes Food Fund (SOWETAN, 2 Mar 83).....	49
Briefs	
Hydroponics Advocated	50
Odd Weather Effects	50
Drought Statistics	50
Water Hole Dries Up	51
Drought Hits Tractor Industry	51
Natal Water Rationing	51
Maize Exports to Taiwan	51

SWAZILAND

Heilstorm Destroys Cotton Crop in Mbovane Area (Mandla Magagula; THE TIMES OF SWAZILAND, 21 Apr 83)...	52
---	----

Drought Cattle Losses Projected	
(Mandla Magagula; THE TIMES OF SWAZILAND, 12 Apr 83)...	54
Drought Blamed for Projected Electricity Board Losses	
(Mandla Magagula; THE TIMES OF SWAZILAND, 13 Apr 83)...	56
Villagers Smuggle Water From South Africa	
(THE TIMES OF SWAZILAND, 22 Apr 83).....	58

ZIMBABWE

Mugabe Discusses Drought Aid Plans	
(THE HERALD, 23 Apr 83).....	60
Estimated Cost of Drought Losses Reported	
(THE FINANCIAL GAZETTE, 8 Apr 83).....	62
Rural Afforestation Project Planned	
(THE HERALD, 26 Apr 83).....	64

USSR

International Symposium on Baltic Sea Pollution	
(SOVETSKAYA LATVIYA, 17 Mar 83).....	65
Problems With Dam Connecting Karabogaz With Caspian	
(PRAVDA, 21 Feb 83).....	67
RSFSR Environmental Commission Considers Protection of Small Rivers	
(SOVETSKAYA ROSSIYA, 1 Apr 83).....	71
Plans To Clean Up Polluted Waters of Industrial Areas Outlined	
(PRAVDA, 28 Mar 83).....	73
Utilization of Low-Waste Technology for Ecological Benefit	
(V. Sokolovskiy; SOVETSKAYA ROSSIYA, 6 Jan 83).....	75
Containment of Pesticide Toxicity in Tadjikistan	
(A. Ya. Yakubov; SEL'SKOYE KHOZYAYSTVO TADZHIKISTANA, Jan 83).....	79
Account of Atmospheric Testing To Detect Toxic Matter	
(R. Priyman, L. Visnapuu; SOVETSKAYA ESTONIYA, 30 Mar 83).....	82

WEST EUROPE

DENMARK

Pollution Drain Off From Land Killing Sea Life in Waters (Carl-Johan Rosenberg; AKTUELT, 25 Mar 83).....	86
Ministry Establishing Laboratory To Analyze Soil Pollution (J.S. Kjaergaard; BERLINGSKE TIDENDE, 14 Apr 83).....	92
Government Proposes To Dig Up, Clean Underground Waste (Helle Ravn Larsen; BERLINGSKE TIDENDE, 13 Apr 83).....	94
Briefs Concern Over. Leaded Gasoline	95

FEDERAL REPUBLIC OF GERMANY

Interior Minister Wants Cleaner Auto Exhaust (FRANKFURTER ALLGEMEINE, 26 Apr 83).....	96
--	----

FINLAND

Firm Quietly Removes 2,4,5-T Control Substance From Market (HELSINGIN SANOMAT, 14 Apr 83).....	98
---	----

BRIEFS

USSR, FINLAND STUDYING BALTIC POLLUTION— A survey of air pollution in the Baltic has begun in accordance with the scientific-technical cooperation program between Finland and the Soviet Union. Together with the Soviets, Meteorological Institute and National Technical Research Center investigators are collecting samples of gaseous and particulate compounds from the sea area as well as of rain water. Being used as a research ship, the Soviet "Akademik Sholeyk" was built in Finland at the Laivateollisuus Oy [Ship Industry Company] shipyard last summer. Samples of phosphorous, mercury, lead, cadmium, PCB compounds and chlorinated hydrocarbons, among other substances, are being collected. After the trip is over, they will be analyzed in the laboratories of the institutes taking part in the investigation. At the Meteorological Institute they say that the findings of the survey trip are needed to determine the total volume of pollution of the Baltic and as comparative material for a survey to be made in the most polluted areas. Similar studies were made with the Finnish marine research ship, "Aranda," in 1981 and 1982. [Text] [Helsinki HELSINGIN SANOMAT in Finnish 12 Apr 83 p 8] 11466

CSO: 5000/2564

WEST'S TIGHT CONTROLS OVER PESTICIDES DESCRIBED

Perth THE WEST AUSTRALIAN in English 8 mar 83 p 23

[Article by Janet Wainwright]

[Text]

STRINGENT regulations cover any pesticide admitted into WA — from the controversial 245T to a household fly spray.

There is ample advice available for farmers and pest-control operators who handle the most poisonous pesticides.

And the domestic user is protected because a householder can buy only the milder pesticides from supermarket outlets.

The secretary of the WA poisons advisory committee of the Public Health Department, Mr Bill Griffiths, said an area that the PHD found impossible to cover was the employee who had been inadequately instructed or who was not under proper supervision when using pesticides.

Labels on pesticides, including household cans, were not like those on such items as cereals . . . which were designed to attract buyers.

Every word on each pesticide label was carefully vetted by the PHD, registered with the department and checked at least once a year to ensure that the contents complied with the label.

In the more poisonous products the word "poison" had to be displayed so that it first caught the eye.

He said that the manufacturer had to pro-

duce evidence of the claims of the pesticide to perform as described.

After extensive testing—of up to two years on the most sensitive species of plant or insect—a permitted dose was decided.

Mr Griffiths said that if a pesticide did not work then it was pointless doubling the dose or spraying again before giving it the required time to take effect. This would not assist and could be dangerous.

Labels must advise safety precautions, such as protective clothing, and also first aid in event of an accident.

Label instructions should be followed for maximum safety.

Mr Griffiths said: "Though we might think that we are inundated with pesticides, in fact it is not made easy to market a new product."

Costs

It takes between four and eight years to get a new chemical on the market and costs between \$4 million and \$18 million.

"Acceptance by Australian authorities need not mean acceptance in WA. The pesticide then has to be registered with WA."

Fines for possessing an unregistered pesticide or failing to register a pesticide ranged

up to \$200 for each offence.

Mr Griffiths said the biggest deterrent was that the Commissioner for Public Health, Dr J. C. McNulty, could order withdrawal of a product from WA.

The cost of doing this was borne by the producer and could be an expensive exercise. The producer or distributor could be fined daily for failure to comply with the order.

WA was the only State that registered pool chemicals containing pesticides.

Queries

The head of the occupational-health department of the PHD, Dr Fred Heyworth, said that it answered several thousand queries each year from the public.

It was not possible to keep track of gardeners and cleaners, he said, though pest exterminators and pool attendants were registered.

Through the department, children were being taught to be cautious with pesticides.

Dr Heyworth said he thought local authorities should be responsible for policing premises that used pesticides.

• There are no WA regulations covering cleaning chemicals unless they are classified as pesticides.

OIL COMPANIES PAY IN BASS STRAIT POLLUTION DAMAGES SUIT

Canberra THE AUSTRALIAN in English 1 Mar 83 p 3

[Article by Paul Molloy]

[Text]

A \$5 MILLION action for damages against Esso-BHP and other Bass Strait oil venturers by 47 fishermen was settled for an undisclosed sum yesterday.

The settlement, which by consent meets all special claims on equipment and fish losses and general claims on lost fishing ground between 1970 and the present, included the payment of all court costs, estimated at \$400,000.

Mr Justice Tadgell agreed to orders settling the action during a Supreme Court hearing in Melbourne.

Only five of the 47 fishermen gave evidence during the 19 days of hearing before settlement was reached.

The claimants - consisting of the 47, a company owning a boat, and the estate of an owner who has died since writs were originally issued seven years ago - claimed \$5 million for nets and equipment damage, loss of income and seabed pollution.

They claimed that the venturers had polluted their traditional fishing grounds with junk - including cable, 300 acetylene gas bottles, a steel door, tyres, drums of pitch, concrete and tar as well as a diesel engine - dropped from ships engaged in Bass Strait oil ventures.

The respondents were Esso Exploration and Production Australia Incorporated, Hematite Petroleum Pty Ltd (a BHP subsidiary) and J. Ray McDermott (Australia) Pty Ltd.

Both sides refused to comment on details of the settlement.

But after it was announced the Lakes Entrance Fishermen's Co-operative Society, acting for the claimants, said further damage claims would be made against Esso-BHP for continued "junking".

The co-operative's assistant general manager, Mr Geoff Simm, said the fishermen would launch a political lobby campaign with a view to protection of fishing grounds and rights and the provision of compensation by the Bass Strait developers.

During the hearing, the fishermen's QC, Mr Bill Gillard, said junk had been dumped in the Lakes Entrance fishing fleet's traditional ground extending from the NSW-Victorian border to Wilsons Promontory.

Recorded

Mr Gillard produced a large map to show locations where owners claimed boats had been stuck fast on oil production junk.

A 668-metre steel cable, a steel door, tyres, drums of concrete and tar, divers' ladders and a diesel engine had all been recovered from the seabed, he said.

Until 1973, Esso-BHP had recovered 106 items in a sweep over 701sq km of seabed but despite pleas to clean up further areas nothing had happened, Mr Gillard said.

Between 1970 and 1978, there were more than 350 recorded instances of claimants' boats becoming stuck on alleged oil production junk.

Until 1976 Esso-BHP had paid out on 100 claims.

CONSERVATIONISTS ATTACK GOVERNMENT'S ENVIRONMENTAL RECORD

Canberra THE AUSTRALIAN in English 2 Mar 83 p 5

[Article by Brendan Donohoe]

[Text]

THE Australian Conservation Foundation has attacked the Federal Government's environmental record and launched a campaign against the Liberal-National Party coalition.

It is the first time the normally conservative, non-political organisation has decided to recommend to its members that they vote against or for a particular party.

The ACP campaign in conjunction with the umbrella group, the National South-West Coalition, has targetted 13 key federal seats in four States to lobby against government members.

On Saturday members of the various conservation groups will distribute tickets favoring the ALP in the House of Representatives and the Australian Democrats in the Senate.

Deplorable

The 13 seats have been letter-boxed with leaflets explaining the conservation issues, particularly the damming of the Franklin River in Tasmania, and calling on the voters to defeat the Government.

The director of the ACP, Dr J.O. Mosley, said yesterday that conservation-minded voters were "sick and tired" of the Federal Government's policies on conservation.

"In the last seven years the Government has failed to deliver," Dr Mosley said.

"We have had seven years of inaction, procrastination and passing of the buck to the States. It's deplorable."

Dr Mosley said the Tasmanian dam controversy had been the "straw to break the camel's back" of conservation-minded people who normally voted Liberal.

A survey of almost 4000 of the ACP's 11,000-plus members had given 95 per cent support to the ACP campaigning against the Federal Government.

Dr Mosley said the ACP had asked the three major parties to define their policies on a wide range of issues.

The results were that the ACP was more satisfied with the Australian Democrats, followed by the ALP and the Liberal stance.

Dr Mosley said there was no reason for an ALP government to renege on its promises.

These include the stopping of the Franklin River dam, proclaiming the whole of the Great Barrier Reef a marine park, refusing beach sand mineral export licences, a \$20 million soil conservation program over four years, and increased government funding to non-government conservation groups.

The Minister for Home Affairs and the Environment, Mr McVeigh, has written to Dr Mosley expressing regret that the ACP has adopted a political position in the election.

"It is desirable that conservation groups maintain an apolitical position in order that their representations stand apart from political motivation or bias," Mr McVeigh said in his letter.

LABOR GOVERNMENT'S POLICIES WILL PROTECT ENVIRONMENT

Brisbane THE COURIER-MAIL in English 9 Mar 83 p 10

[Article by Bill Ord]

[Text]

THE incoming Federal Government would do much more about conservation in Queensland than preventing sand mining on Moreton Island and gazetting the whole Great Barrier Reef as a national marine park, the ALP environment spokesman, Mr Barry Jones, said yesterday.

It would also offer dollar-for-dollar assistance to the Queensland Government to save the ravaged remnants of the state's rainforests from logging and land development and to promote alternative regional-employment opportunities.

Speaking from Melbourne, Mr Jones said he would probably be given a choice of ministries — Environment and Conservation or Science and Technology — when the Prime Minister-elect, Mr Hawke, decided on the composition of his Cabinet tomorrow.

"I haven't made this very difficult choice yet, but I assure all Queenslanders that whoever gets the conservation portfolio will implement Labor's environmental policy proposals and priorities fully and quickly," he said.

One Labor proposal is to give increasing financial assistance to the states to extend and manage Australia's most significant national parks.

Labor's policy paper specifically mentions Fraser and Moreton Islands and the Great Barrier Reef park.

Labor also advocates:

- Aboriginals as 15 percent of federal and state National Parks and Wildlife Service officers by 1988.

- An environmental contaminants authority to work with the states to protect air, earth and water from industrial, chemical and other poisons and clean up dangerous situations, such as at Brisbane's Willawong liquid-waste dump.

- A reassessment of primary producers' tax deductions for land clearance and swamp drainage measures which could cause land degradation.

- Accelerated funding for Commonwealth and state measures to combat soil erosion.

- A co-operative national system of environmental assessment legislation integrated into state development and planning rules and requirements.

- More effective Commonwealth powers to demand environmental impact statements in any project or proposal "deemed of national significance".

- Greater public participation in monitoring the application of the Commonwealth's Environment Protection (Impact of Proposals) Act.

- Use of federal constitutional powers over trade and commerce, taxation and issue of export licences to implement Commonwealth environmental assessments and decisions.

ARRESTS, PROTESTS OVER FRANKLIN RIVER DAM CONTINUE

Opposition of Democrats

Sydney THE SYDNEY MORNING HERALD in English 23 Feb 83 p 10

[Excerpt]

The Gordon-below-Franklin dam protests would be stepped up in a pre-election blockade, the Tasmanian Wilderness Society announced yesterday.

Already more than 1,000 protesters have been arrested and thousands more have taken part in demonstrations since the on-site protest started by the State's south-west on December 14 last year. The society said yesterday it was now looking for more protesters.

and financial support to carry the protest right up until the Federal elections.

According to the society, Tasmania's Hydro Electricity Commission is now blasting and using bulldozers in the rainforest areas to prepare the dam site.

In Melbourne, Australian Democrat Senator John Siddons has confirmed that his party will prevent Federal funds being used to dam the Franklin River as long as it held the Senate balance of power.

Switch in Union Position

Brisbane THE COURIER-MAIL in English 26 Feb 83 p 3

[Article by Bill Ord]

[Text] A CONFIDENTIAL report prepared by officials of 22 Tasmanian trade unions says State Government claims that hydro-electricity dam construction is the best way to create jobs "is a cargo-cult myth."

It says the 16 industries that use 67 percent of Tasmania's electricity output provide only 6 percent of the state's jobs and that the \$453 million earmarked for the Gordon-below-Franklin dam would be better shared by a wide variety of other job-creation projects.

[The Federal Opposition technology and environment spokesman, Mr Barry Jones, said in Brisbane this week that Comalco's aluminium smelter used 27 percent of Tasmania's power — which it bought at the world's cheapest rate of 0.6 cents a unit.

— but provided only 0.5 percent of the state's jobs.]

The union report also says: "Most of the sackings that have occurred since the Gray (Liberal) government came to power have been in the industries that use the largest amounts of power."

The report advocates spending the dam money on:

- Making present electricity generation, distribution and consumption processes less wasteful and more efficient.

- Production of fuels such as alcohol from beet.

- Increasing and widening fishing and agricultural output.

- Further processing of primary products before export.

- Regenerating derelict forests.

- Boosting the tourism industry.

- Upgrading the precision tool industry.

The Amalgamated Metals, Foundry and Shipbuilding Union Tasmanian secretary, Mr Maurie Hill, said from Hobart yesterday that the report had not yet been circulated for discussion by the unions.

"When it is, I'm certain that

most unions which have been in favor of the dam will change their tune dramatically," he said.

Mr Hill said that even though the federal Labor Party had declared itself against the dam, it did not have a good grasp of the means by which jobs could be created by spending the dam budget on other economic activity.

"This report will give them — and the Tasmanian unions — something solid to get their teeth into," he said.

New Arrests

Canberra THE AUSTRALIAN in English 2 Mar 83 p 3

[Article by Peter Dwyer]

[Excerpt]

MORE than 200 conservationists were arrested yesterday in south-west Tasmania in the biggest protest of a two-month campaign against the Franklin dam.

Called Green Day, the protest is believed to have pushed the total number of arrests in the campaign to beyond 1500.

Arrests were made in all areas of construction work in a tense day in which anti-dam and pro-dam groups faced each other for the first time.

Tempers flared as dam supporters challenged anti-dam groups in the streets of Strahan, near the conservationists' camp outside the town, and at the area where a road is being built to the dam site.

Appeal of Scientists

Canberra THE AUSTRALIAN in English 2 Mar 83 p 5

[Article by Jane Ford]

[Excerpts]

THE president of the Academy of Science, Professor Arthur Birch, has appealed to the Prime Minister, Mr Fraser, to stop construction of the Franklin dam.

In a letter to Mr Fraser, written on behalf of the academy's normally reticent council, he said the dam would deprive science of a number of unique biological and archaeological opportunities.

He described the region as

one of the few remaining pristine areas of the world which must be retained for long-term investigation.

Professor Birch said he was reluctant to enter the political debate but the issue was of such importance that the Academy should put forward the scientific arguments relevant to it.

"We are responsible to the world at large for part of our common heritage," he said.

CANBERRA, TASMANIA DRAW BATTLE LINES OVER FRANKLIN

Political Implications

Brisbane THE COURIER-MAIL in English 7 Mar 83 p 2

[Excerpt]

MURWILLUMBAH.— The Deputy Prime Minister and National Party leader, Mr Anthony, yesterday attributed Labor's overwhelming poll victory to its campaigning on the Gordon-below-Franklin dam issue.

He said he believed the issue would lead to division within Australia.

"The government has suffered — particularly in Victoria — from the campaign against the dam on the

Franklin River in Tasmania," Mr Anthony said from his Sunny Meadows property near Murwillumbah in northern New South Wales.

"I do not believe that the underlying issues in the dam campaign were clearly understood by Australians and I am still convinced, despite my own opposition to the dam, that the approach by the Labor Party is doomed to bring enormous division to this country."

Hawke's Role

Melbourne THE AGE in English 8 Mar 83 p 5

[Article by Simon Balderstone]

[Excerpts]

CANBERRA. — The incoming Prime Minister, Mr Hawke, said yesterday he would lead his Government's moves to stop the Gordon-below-Franklin dam.

Mr Hawke said he wanted to ensure that work stopped on the dam as soon as possible. In "one way or another" he certainly wanted any environmentally damaging work stopped.

He said his Government would be seeking talks with the Tasmanian Premier, Mr Gray, next week, when his Ministry had been settled.

The ALP leader said he regarded the issue as being of such importance that he would be assuming prime responsibility for the discussions with Tasmania, and would act in association with relevant Ministers such as the Treas-

urer, the Employment and Industrial Relations Ministers, Senator Grimes, a Tasmanian, and perhaps others.

Mr Hawke said he would seek to set up as quickly as possible appropriate projects to provide jobs for those who would otherwise have been engaged in building the dam.

Mr Hawke said again that legislation was being prepared "as a fall back position", so the ALP was covering both aspects — the constitutional position and the negotiations.

The Tasmanian Premier, Mr Gray, said yesterday that he had the "best legal advice", which said the Commonwealth had no powers to intervene, and said the Federal Government would lose the fight.

But Mr Hawke repeated yesterday that there was no doubt about the constitutional powers of the Commonwealth, and Mr Fraser had understood that.

He said advice from the Attorney-General's Department was that the powers available to the Commonwealth went beyond the external affairs power. He cited power to control trade and commerce between States and countries, and Section 96, control over grants.

CSO: 5000/7564

SECRET TASMANIAN REPORT SHOWS 20 MORE DAMS PLANNED

Brisbane THE COURIER-MAIL in English 25 Feb 83 p 3

[Text]

MELBOURNE.— A leaked Tasmanian Hydro Electric Commission document reveals plans for up to 20 more dams, including five in the environmentally sensitive rainforest area, the Tasmanian Wilderness Society said yesterday.

A society representative, Miss Karen Alexander, said the document "Future Power Schemes Investigation - Progress Report August 1981" gave lie to statements by the Federal Government that no more dams would be built after the Gordon-below-Franklin dam.

Miss Alexander said it was a technique of the commission to spend time and millions of dollars on feasibility studies.

Fait accompli

They were then presented to parliament as a fait accompli and because of the momentum were ratified.

"This was done with the Pieman Scheme and we were told Lake Pedder was the last one," Miss Alexander said.

She estimated that if hydro schemes in the World Heritage area of the south west wilderness — the Davey, Jane River, Upper and Middle Franklin and Lake Dixon — went ahead, only about 10 percent of the wilderness would remain.

HEC Assistant Commissioner Mr Bill Taskell said the Gordon-below-Franklin dam now being built would affect 1 percent of the wilderness.

But Miss Alexander said a University of Tasmania study showed the dam would affect 16 percent.

Mr Taskell said he was not aware of the "leaked" report. Reports on water resources containing updated details of possible projects were continually prepared for the government, he said.

Reports had been prepared for successive Tasmanian governments, he said.

Mr Taskell said the Gordon-below-Franklin was recommended to meet power needs for 1991, forecast to be greater than existing energy resources could supply.

When the time came for the commission to recommend a new development, the information would be there, he said.

"We believe there is a requirement for additional energy after the Gordon-below-Franklin is completed," he said.

In Sydney, the National Aboriginal Conference pledged to fight the destruction of the Aboriginal cultural heritage in south-west Tasmania.

It said cave sites threatened by the planned Gordon-below-Franklin dam must be "preserved and protected for all time, at any cost".

NATIONAL PARK SAID TO BE DAMAGED BY LOGGING

Melbourne THE AGE in English 11 Mar 83 p 4

[Article by Rosslyn Beeby]

[Text]

Conservationists claim hardwood logging has destroyed sensitive areas of the Otway National Park, and is threatening the tourist potential of the area.

A report compiled by local environment groups says that, if the present rate of logging continues, up to 50 per cent of the park will be destroyed in the next five years.

It claims it will take at least 150 years for the park to recover its appeal as a tourist attraction. At present one and a half million people visit the Geelong-Otway region each year, which is the highest tourist influx in Victoria.

The Otway National Park was created in July 1961 and is subject to an agreement between the Director of National Parks and the Forests Commission, which allows low intensity logging within the park to continue until December 1988.

About one-third of the park's 12,750 hectares have been set aside to be lodged up to December 1985 at an annual rate of 7300 cubic metres of sawlog timber.

The report, compiled by the Geelong Environment Group, Otway Environment Group and Colac Environment Group, says that the first year of logging operation has caused severe soil disturbance. Logs have been felled into stream beds and sawlog waste has been left strewn through the park.

The report states: "The Otway National Park is being denigrated and left, in many cases, looking like a garbage dump. Scotch thistles and stinging nettles make up the majority of regrowth among a mess of broken, twisted forest waste".

The park provides only 15 per cent of the total quota of sawlogs for the area. The report argues that logging within the park is unnecessary as local timber mills cannot sell their total projected quota of logs. Last year, only 80 per cent of the projected total was harvested by the mills which, the report claims, proves that the 15 per cent allocation provided by the park is not required.

A spokesman for the Minister for Forests, Mr Mackenzie, said the Minister was expected to announce changes to restrictions on logging within the park this weekend.

CSO: 5000/7564

DROUGHT BRINGS LIVESTOCK HERDS TO LOWEST IN 12 YEARS

Melbourne THE AGE in English 11 Mar 83 p 19

[Article by Ken Haley]

[Text]

CANBERRA. — The continued alarming decline in cattle numbers has set the stage for higher retail prices, industry sources said yesterday.

The national cattle herd has fallen to 22 million, its lowest for more than 12 years. In the late 1970s, it peaked at 34 million head.

A spokesman for the Australian Meat and Livestock Corporation, Mr Neville McDonald, said yesterday beef prices would rise sharply when rain broke the drought.

Whether this happened in autumn or the drought did not break until next year, the depressed livestock population and this week's devaluation would result in retail price rises in the next few months, he said.

"With devaluation the cost of feed grain went up and this would be reflected in the price of pork, chicken

and poultry," he predicted.

Mr McDonald said a variety of climatic, market, quantity and quality factors made it impossible to forecast whether "prices will rise by half, double or treble".

The NSW secretary of the Meat and Allied Trades Federation, Mr Bill Patterson, said butchers were selling rump steak for less than \$4 a kilogram and buying drought-affected lambs for \$1.60 a kilogram.

"They're absurd prices, but you've got to remember they're based on quality," he said.

Even rain in the next two weeks would mean prices would rise "substantially and quickly," Mr Patterson said.

The Cattlemen's Union executive director, Mr Rick Farley, said yesterday he expected the herd to fall below 20 million, and that restocking it would be slow.

CSO: 5000/7564

BRIEFS

NSW CHEMICAL CONTROLS--The State Government will consider introducing legislation to control the use, storage and disposal of dangerous chemicals. The Minister for Planning and Environment, Mr Bedford, said yesterday that he had asked the State Pollution Control Commission to suggest stronger legislative measures to control chemicals which could pose a threat to the environment. Mr Bedford said that claims had been made in the past that Australia had been used as a dumping ground for chemicals which had been restricted, and in some cases banned, in other countries. He said that the legislation would make it compulsory for importers and manufacturers of chemicals to submit detailed information to the Government about individual chemicals used and their potential impact on the environment. The president of the Chemical Importers and Exporters Council of Australia, Mr Barry Alchin, said yesterday that the industry welcomed any moves to introduce controls on chemicals considered to be dangerous, as long as legislation was uniform throughout Australia. A spokesman for the conservation group, Friends of the Earth, said yesterday that the group welcomed any legislation designed to control the use, storage and disposal of dangerous chemicals. [Sydney THE SYDNEY MORNING HERALD In English 18 Feb 83 p 16]

UNION ASBESTOS BAN--QUEENSLAND Trades and Labor Council unions have banned the installation of thermal and acoustic asbestos insulation in any building construction. The TLC general secretary, Mr Fred Whitby, said this was decided last night after delegates heard from Dr Helen Abrahams of extremely dangerous hazards associated with asbestos insulation in all types of buildings--high rises, the work place and the home. He said the TLC made the decision after considering a letter from the Electrical Trades Union which claimed asbestos was responsible for more deaths in industry than any other work hazard. In Queensland asbestos had been used in a wide variety of industries including electricity generating and distribution, sugar mills and multi-story buildings. Mr Whitby said: "It was also decided that the TLC seek negotiations with the Brisbane City Council with a view to altering building regulations and/or ordinances so as to prevent the installation of asbestos insulation in buildings." He said the TLC planned to set up a working committee to co-ordinate a campaign aimed at removing asbestos from the work place and to make recommendations for legislative changes to safeguard workers. [Brisbane THE COURIER-MAIL in English 24 Feb 83 p 12]

2,4-D HERBICIDE SPRAYING--SOUTHPORT--An Albert Shire Council threat to spray the Gold Coast water supply catchment area with the herbicide 2,4-D was averted this week after talks with the Gold Coast City Council. The Albert Shire Council was concerned at the spread of noxious groundsel weed in the Hinze Dam catchment, land owned by the Gold Coast council, and had little success in previous talks about curtailing the weed spread. The matter became more important recently with the approach of the groundsel blossoming season, which would send millions of seeds across the Albert Shire and into the Gold Coast. The Albert Shire health committee chairman, Cr Jim Ellison, said as a last resort his council would have entered the catchment area and let a contract for weed spraying. He said 2,4-D would have been used but it would not have been a public health risk. [Brisbane THE COURIER-MAIL in English 25 Feb 83 p 11]

GREENPEACE VISITOR--A director of Greenpeace International, Dr Patrick Moore, arrived in Sydney yesterday and pledged his organisation's support for the campaign to save the Franklin River. Dr Moore said his visit was aimed at making Australians more aware of the need to protect the world environment. The main Greenpeace Australia issues were to stop the Franklin River Dam, oppose uranium mining and preserve Australian wildlife, especially the dwindling kangaroo population. [Sydney THE SYDNEY MORNING HERALD in English 1 Mar 83 p 8]

ENVIRONMENTAL VOTE--THE Queensland coalition government would have to adopt a more sympathetic approach to environmental issues if it were to retain seats at this year's state election, the Queensland Conservation Council claimed yesterday. The council co-ordinator, Miss Elizabeth Bourne, said strong conservation campaigning in Queensland had undoubtedly contributed to what looked to be Labor victories in five marginal government seats. Local and national issues had played a role in swinging votes against the government in Bowman, Fadden, Petrie, Herbert and Leichhardt. Miss Bourne said: "If the Liberal and National parties want to attract the conservation vote in the future, they should seriously reassess their pro-development attitudes. People are concerned about the protection and enhancement of their environment, and as Saturday's election results have shown, people are increasingly directing their votes towards parties which are prepared to adopt pro-environment platforms." [Text] [Brisbane THE COURIER-MAIL in English 7 Mar 83 p 6]

CSO: 5000/1564

INCREASING CONCERN OVER YAMUNA RIVER POLLUTION

Dubayy KHALEEL TIMES in English 18 Apr 83 p 5

[Text]

THERE is increasing concern over the state of the Yamuna—one of India's holy rivers which flows through Delhi—which is being likened to an open sewer.

With its source in the snowy Himalayas and a route which takes it through the capital and past the Taj Mahal before joining the Ganges, the Yamuna has the potential virtues which would qualify it to appear in a mineral water advertisement.

But tragically it is an example of just how much man can despoil nature.

Delhi's City Improvement Society recently organised a seminar to draw attention to the problems. Lieutenant-Governor Jagmohan summed up the situation when he said that at one time it was believed a dip in the Yamuna would clean the body and enliven the soul. "Today it will sag the body and sap the soul," he said. He might also have added that you'd stand a good chance of catching something rather nasty.

A couple of hundred million gallons of waste water—much of it sewage—is emptied into the river daily and dozens of factories also find it handy for disposing of their effluent.

The only saving grace is that the Yamuna does not flow through the centre of Delhi in the way that some famous rivers flow through other capitals of the world. It is actually now on the outskirts, and apart from providing a handy receptacle, has little influence on daily life.

It's not a working river so there are no boats apart from those of a new sailing enthusiasts and some anglers (we have strong-tasting river fish around these parts).

As on the rest of its journey, it does provide water for irrigation, but the biggest users are probably the dhobis who somehow manage to get clothes reasonably clean after dipping them in the murky mixture.

The seminar agreed that action needed to be taken now because it is estimated that Delhi's present population of 6.2 million could virtually double by the turn of the century. And that means a lot more sewage.

As usual, lack of money is the big handicap, but it was decided to set up a river development body with the aim of improving the quality of the water and developing the river-side.

CSO: 3000/4713

GOVERNMENT CONFIRMS MAORI FISHING REEFS POLLUTED

Christchurch THE PRESS in English 19 Mar 83 p 6

[Text] PA--Wellington--A claim that traditional Maori fishing reefs on the Taranaki coast had been badly polluted by the discharge of industrial waste has been confirmed by a Government tribunal.

The Waitangi Tribunal said in its report released yesterday that the Treaty of Waitangi obliged the Crown to protect Maori fishing grounds. It recommended that a proposed ocean outfall from the Motunui synthetic fuels plant be stopped.

The claim was made by Te Atiawa people of Taranaki.

The reefs and river along a 48km to 56km stretch of the north Taranaki coast constituted "significant and traditional fishing grounds of specific hapu (sub-tribes) of Te Atiawa people," the tribunal said.

The reefs and associated marine life had suffered from pollution and certain reefs near Motunui were likely to be deleteriously affected by outfall from the synthetic fuels plant.

The tribunals found that insufficient planning requirements had failed to provide an adequate assurance that the Waitara River, which suffers the worst pollution, and the reefs would not be further polluted by further development.

Insufficient recognition had been given to the Maori interest in the area to ensure protection of that interest, the tribunal said.

The Treaty of Waitangi obliged the Crown to protect Maori fishing grounds but that had not been given priority by departments of State and other bodies whose duties were described by statute. The Waitangi Tribunal was set up under the Treaty of Waitangi Act, 1975, to inquire into Maori grievances against actions of the Crown.

Other recommendations of the tribunal were:

--That the Crown seek an interim arrangement with the Waitara Borough Council to discharge effluent from the plant through its outfall.

--Establishment of a regional planning and co-ordinating task force to propose medium-term plans for development in the region.

--An inter-departmental committee to promote legislation for the reservation and control of significant Maori fishing grounds.

--The Crown and the Maori people affected should seek acceptable practical solutions for particular cases.

Te Atiawa people desired a workable compromise in that case and the tribunal's recommendations were a reflection of that.

CSO: 5000/4325

BRIEFS

EROSION THREATENS FOOD PRODUCTION—More than 75 percent of New Zealand shows signs of erosion which, if not contained, will see a major and permanent decline in the country's ability to produce food, the Minister for the Environment, Dr Shearer, said yesterday. Dr Shearer said in a speech to the Napier branch of the Royal Forest and Bird Protection Society that New Zealand's primary production depended on soils which were often infertile and unstable. He said that about 3.4 million hectares of land in New Zealand were affected by wind erosion alone. Consider that a five-tonne truck load of dry soil flows down the Manawatu River every 13 seconds. That is the equivalent of over 12 million tonnes of sediment a year. "New Zealand is prone to high natural rates of erosion, but the past destruction of our native forests and overgrazing of our hill country have accelerated the problem dramatically. "We are working to contain erosion by planting to stabilise hillsides, planting shelter belts, retiring hill country land in the South Island and using direct drilling techniques for planting crops. If we fail, New Zealand will itself see a major and permanent decline in its capacity to produce food and fibre and in the export markets they sustain. [Text] [Wellington THE EVENING POST in English 25 Mar 83 p 2]

CSO: 5000/4325

SOIL EROSION, INORGANIC FERTILIZERS THREATENING FOOD PRODUCTION

Manila BULLETIN TODAY in English 10 Apr 83 pp 1, 13

[Text]

Extensive soil erosion and excessive use of inorganic fertilizers are threatening the food production program of the country, the National Environmental Protection Council (NEPC) under the Ministry of Human Settlements said yesterday.

Dr. Celso R. Roque, NEPC executive director, said that almost 75 per cent of the entire alienable and disposable lands in the country are badly eroded.

Thirteen provinces (Batangas, Cebu, Ilocos Sur, La Union, Batanes, Bohol, Masbate, Abra, Iloilo, Cavite, Rizal, Capiz, and Marinduque) have half of their land areas heavily eroded.

Specifically, the NEPC said, about 10.06 million hectares of the total 13.27 million hectares of arable lands have been lost to erosion.

The NEPC said the country has a total land area of 30 million hec-

tares, 16.7 million hectares of which are classified as forest lands.

Roque added that because of the use of high-yielding grains varieties in agricultural production, the effects of erosion are not noticed. However, he warned that grains and supply shortages would become a reality in a few years.

The NEPC reported that the soil erosion problem has resulted in the deterioration of agricultural lands; increase of flood occurrence; reduced water supply; siltation of reservoirs, canals, and rivers; destruction of infrastructure projects; and depletion of wildlife and other natural resources.

Roque cited the excessive siltation in Ambuklas which has reduced its expected life span from 62 years to 32 years. He added that it takes nature 100 years or more to build one inch of topsoil.

The NEPC pointed out that although physical causes like rainfall, wind,

and slope of land contribute to soil erosion, the primary causes are man-made, like deforestation, overgrazing, and over-cropping.

The NEPC also said excessive use of inorganic fertilizers by farmers affect the soil negatively by lessening its humus content, decreasing soil porosity and water-holding capacity. This inevitably results in higher soil acidity, greater leaching, and erosion.

In addition, the NEPC said, nitrates from fertilizers carried by waters result in lake eutrophication, methemoglobinemia (blue babies), and may react with amines from drugs and food flavorings to form carcinogenic (cancer-causing), teratogenic (causing birth defects), and mutagenic (causing genetic change) substances.

Also, the NEPC said, atmosphere pollution also results from the indiscriminate use of fertilizers, especially nitrogen fertilizers affecting the ozone layer.

MERCURY, LEAD FOUND IN FISH

Manila PHILIPPINES DAILY EXPRESS in English 13 Apr 83 pp 1, 12

[Text]

Fish and other aquatic life in various rivers in the country, including the Pasig, have been found to contain mercury and other metals which pose a danger to people, the National Environmental Protection Council (NEPC) of the Ministry of Human Settlements disclosed yesterday.

Dr. Celso R. Roque, NEPC executive director, said a study by the National Pollution Control Commission (NPCC) showed that fish in some of the rivers had heavy metals like copper in excess of tolerable levels.

Rivers in Bataan, Pangasinana and Bulacan had a level of .06 MG/l of copper; Pasig-Marikina, 0.14; and Tullahan-Tinajeros, 0.12, when the allowable limit is only 0.02.

The Pasig-Marikina river showed a 1.20 MG/l of mercury against a 2.0 allowable limit.

Among the fish and shells found to contain mercury were: "alumahan," "sapeap," "hase-hasa," "tahong," "tala-ba," "biya," and "bisugo," the NEPC said.

NPCC studies showed that in Cavite, "sapeap" contained .11 ppm (parts per million) of mercury; "hase-hasa," .046 ppm;

"bisugo," 0.32 ppm; "tahong," .037 ppm; and oysters, .009 ppm. In

Laguna de Bay, "ayungin" contained .063 ppm and "biya," .053 ppm.

Freshwater fishes like "bangus," "hito," "tilapia," and "dalag" likewise revealed small but measurable amounts of toxic wastes residues.

The NEPC said mercury is one of the most toxic of the heavy metals and undergoes bioconcentration through the food chain. It is largely used by chlor-alkali plants, textile finishings, and paper pulp processors.

However, the NEPC pointed out that the mercury content of local fishes and other aquatic life is still within permissible level. The World Health Organization and US Environmental Protection Agency recommend a permissible level of mercury residue in human food of 0.5 ppm.

The NEPC also reported that various fishes and other aquatic life are also contaminated with cadmium, lead, copper, and zinc.

Lead causes anemia and severe intestinal cramps; higher concentration can lead to permanent nerve damage and death. Other heavy metals causes poisoning and nerve damage.

MANILA POLLUTION LEVELS DECREASE

Manila PHILIPPINES DAILY EXPRESS in English 9 Apr 83 p 7

[Text]

AIR QUALITY in Metro Manila for the first quarter of 1983 is better than last year's, the National Pollution Control Commission reported yesterday

NPCC Chairman Guillermo Pecache said decreases in the major pollutants were registered for this year in four air quality monitoring stations in Ermita, Quiapo, Cubao and Pasay City despite the increase in the number of motor vehicles.

Carbon monoxide and suspended particulates or dust levels specifically went down as compared to levels during the first quarter of 1982, Pecache said. The decrease indicates that motor vehicle operators and industries have better-maintained machineries, he said.

...

THE EXCESSIVE emission into the atmosphere of these two pollutants results from the incomplete burning of diesel oil by motor vehicles and machineries, he added.

Pecache said there was an increase in the level of a third major

pollutant, the sulfur dioxide. He said, however, that the rise is still within tolerable levels.

The increase is due to more consumption by motor vehicles and machineries of diesel and bunker oil fuels, both of which have high sulfur content, he explained.

...

MEANWHILE, Pecache said the NPCC will continue to apprehend smoke-belching vehicles and go after uncooperative industrial establishments to maintain better air quality in the metropolis.

The NPCC reported the apprehension of 3,370 smoke-belching vehicles, including public utility jeepneys, buses, and cargo trucks from January to March, this year alone.

Pecache said the agency has collected about P97,000 in fines from these vehicles.

From 1977 to 1983, he said the NPCC has apprehended 44,136 vehicles and collected more than P1.8-million fine for smoke-belching.

CSO: 5000/4327

SIX BEACHES FOUND POLLUTED

Manila BULLETIN TODAY in English 2 Apr 83 pp 1, 10

[Article by M. C. Rodriguez]

[Text] Only ten of the 16 beaches in Metro Manila and nearby areas are safe for swimming, the National Pollution Control Commission (NPCC) disclosed yesterday.

These are the Villamor beach in Novleta, Cavite; Holiday in barrio Tumalan, Naic, Cavite; Garden Coast in Tanna, Cavite; Villa Sumana in barrio Copipin, Tanna, Cavite; Starfish in barrio Tibag, Tanna, Cavite; Lido in Novleta, Cavite; San Isidro in barrio Ligtan, Rosario, Cavite; Viva Mabuhay in Novleta, Cavite; Punta Grande in barrio Tumalan, Naic, Cavite; and San Agustin in Tanna, Cavite.

NPCC monitoring reports showed that the bacteriological quality of these beaches conformed with the standards for natural bathing waters, which is 1,000 microorganisms per 100 milliliters of water.

NPCC Commissioner Guillermo Pecache warned that the public must avoid six other beaches to prevent a possible outbreak of intestinal and skin diseases.

Identified as unsafe for

bathing are the beaches located within the reclamation areas along Roxas boulevard and the Manila-Cavite Coastal Road Reclamation Project (MCCERP), particularly the future seaside of the MCCERP; the Bacalaran-Pasay boundary; the seaside at the back of the Film Center, northwest of the Cultural Center of the Philippines; the south breakwater at the South Harbor; and the vicinity of the North Harbor and the mouth of the Pasig river.

These beaches were found unfit for bathing due to the abnormally high count of coliform or bacteria content, Pecache said.

The polluted waters were attributed to the absence of an adequate sewerage system for domestic waste water in the metropolis and the inability of the tidal current to flush out organic pollutants during summer.

RIVER POLLUTION AUTHORITIES WARN OFFENDERS

Manila BULLETIN TODAY in English 4 Apr 83 p 11

[Article by Marcia C. Rodriguez]

[Text]

The National Pollution Control Commission warned industries polluting the Zapote-Las Piñas river in Las Piñas, Metro Manila, yesterday to desist from throwing their wastes improperly into the water.

Brig. Gen. Guillermo A. Pecache, NPCC commissioner, said action will be taken against firms that fail to put up wastewater treatment plants to protect the river and the aquatic life.

Farmers raising mussels and oysters in the Las Piñas-Zapote river had earlier complained to the NPCC that pollution was destroying their business.

Pecache thus called on several manufacturing firms and establishments along the river to a dialogue. Among them were the Mochida Manufacturing, Philips Electrical, Lamps, Rohm and Haas,

Phil., Borden International Phil., Latex Products Co., and Republic Steel Tube.

Initial reports of the NPCC showed that the quality of some portions of the river had deteriorated due to the indiscriminate dumping of wastes by industries and residents living nearby.

Pecache directed farmers to notify the NPCC of any violations committed by industries and ocean-going vessels that discharge waste oil in the river and Manila bay.

Lt. Col. Quirico Evangelista of the Philippine Coast Guard also requested the farmers through their representative lawyer Oscar Malinis of the Timbulan Club of Bacoor, to report any unauthorized discharge of wastes by some local and international vessels directly into the bay.

CSO: 5000/4326

FORTY POLLUTED RIVERS TERMED 'DEAD'

Manila BULLETIN TODAY in English 7 Apr 83 pp 1, 10

[Text]

Forty rivers in the Philippines are already "dead" due to pollution resulting from domestic sewage, industrial wastes, agricultural wastes, and community refuse.

The National Environmental Protection Council (NEPC) under the Ministry of Human Settlements said the rest of the country's water resources are fast deteriorating.

These 419 principal rivers, seven major river basins, 6 major and 62 minor lakes, and vast wetlands are deteriorating due to logging in the upper reaches and the increasing population growth and rapid industrialization, the NEPC said.

The NEPC cited as an example the Pasig river which, it said, carries some 55 per cent organic load from domestic sewage.

Out of the 313 industrial firms along the banks of the Pasig-San Juan-Marikina river systems,

138 pollute the river in varying degrees, the NEPC said.

Pollution in the Pasig is further aggravated by oil spills coming from about

300 gasoline stations, several oil depots and farm barges, tankers and boats docking in the area.

As a result, several breeds of fishes have been killed and the water has become unfit for bathing, washing, and other domestic uses, the NEPC added.

The Tinajeros-Tullahan river system in Malabon, the NEPC said, is the most polluted river system in the country today, receiving various types of solid and liquid waste from about 20 firms along their banks.

Other rivers affected by industrial wastes and poor sewage disposal in Metro Manila are the Paranaque-Zapote, Malabon, Navotas, and Maypa-jo rivers.

Practically, all rivers in other highly urbanized areas such as Cebu, Iloilo, Davao, and Baguio, are similarly polluted in varying degrees, the NEPC said.

The physical and chemical characteristics of water in Angat, Apo, and Bicti rivers and La Mesa dam also show that the water from these rivers is generally turbid and contains large amounts of suspended solids.

This is due to the illegal logging and shifting cultivation (kaingin) of people at the water sources, the NEPC said.

In addition, 40 sugar mills and 15 alcohol distilleries continue to destroy 19 rivers and other bodies of water in the country.

Some of these are Balagtas river in Bulacan, Palico river in Batangas, Jalaur and Uli-An rivers in Iloilo, Alitgon river in Capiz, the Minuluan, Manapia, Upit, Salamanca, and Pontevedra rivers in Negros Oriental, and Panamanagan river in Negros Occidental.

Eleven river systems — Agno, the Bued, Abra, Ilog, the Louis, Palanas and Ayala, the main Dasal river, the Taft, the Sipalay and Taongase river — received daily tailings discharges from mine sites, the NEPC disclosed.

BRIEFS

POLLUTION REDUCES RICE YIELD--Dagupan City--The pollution of Pangasinan ricelands from mine tailings and siltation has pushed down rice production in this province by two million cavans since 1980. This sad report was made by Gov Aguedo F. Agbayani at the inauguration of the Silag-Lawis Communal irrigation pump in Labrador, Pangasinan. Agbayani said pollution has reduced the areas of irrigated ricelands from 115,000 hectares to 79,000 hectares for the first cropping and from 45,000 hectares to 29,000 for the second cropping. Rice production in Pangasinan, the governor pointed out, went up from seven million cavans in 1972 to 18 million in 1979 and 1980 because of massive construction of irrigation systems. Agbayani said the harvest went down to 16 million cavans "because of pollution from mine tailings and siltation." He gave the assurance however, appropriate measures are being taken up to check pollution. He revealed that the National Irrigation Administration (NIA) has authorized the release of P4 million for the clear development program. The P10-billion San Roque multi-purpose dam project in San Miguel, Pangasinan is also a sure counter-measure against the pollution of Pangasinan ricelands, it was learned.-- (Jun Velasco) /Text/ /Manila BULLETIN TODAY in English 23 Apr 83 p 14/

CSO: 5000/4329

ARTICLE NOTES ENVIRONMENT REQUIRES SAME DILIGENCE AS PRODUCTION

AU311453 Bratislava ROLNICKE NOVINY in Slovak 30 Mar 83 p 5

[Article by Eng Pavol Stehlo, Candidate of Sciences, of the Advanced School of Agriculture, Nitra: "Great Hidden Reserves: Forests Are Nature's Greatest Economic Asset"]

[Excerpts] The economic aspects of the living environment are exceedingly important, yet the living environment is too important for the very existence of man on earth to subject the solution of its problems just to economic considerations. This is especially true of the socialist society, which aspires to the fullest and best possible satisfaction of the needs of all its members. A healthy living environment is one of the most elementary needs, not only general social problems are at stake here but not least of all also ethical and political problems.

We must devote systematic, steadily increasing attention to the protection of forests against industrial emissions. For example, the technology of aluminum and magnesite production has a negative impact not only on forest vegetation but also on the living environment. The Forestry Research Institute in Zvolen is therefore taking comprehensive steps aimed at preserving the substance of forests and improving their functions in the living environment of these regions. On the basis of diagnosing a large area, it has designated jeopardized zones in a differentiated fashion and is using the antipollution role of forests in them. [as published]

On 1 January 1982, the reserves of timber in CSSR forests amounted to 864 million cubic meters, 328 million of them in Slovakia. This production base guarantees--provided there is a good-quality renewal of the forest areas within the framework of expanded reproduction--not only enough raw timber but also enough total organic matter from every hectare. For example, in 1981 some 19 million cubic meters of timber were obtained in the CSSR, 5,657,000 cubic meters of them in Slovakia. In the annual production of organic matter, timber accounts for 73 percent, the bark for 6 percent, stumps and roots for 17 percent, and leaves, cones, needles and so forth form 4 percent.

The historical development with its positive and negative aspects has shown us that some economic activities of modern society cause devastation to the living environment. They are, admittedly, also a source of the developing social prosperity. The problem thus arises of the boundary between economic activity

and its excessive growth, all the more so as economic activities have aggravated the problem of the living environment to such a degree that it has become a strongly-felt problem.

The protection and creation of the living environment holds an important place in our life and work that must be respected. That is why all rank-and-file and managerial workers must show substantially greater responsibility in approaching the fulfillment of tasks in this important sector. The present state of affairs as well as the findings in other countries convince us that the living environment and its important component--the forest--are becoming a limiting factor in the further smooth development of the national economy. A fundamental turnabout in the present development of the quality of the living environment can only be achieved when its protection becomes the concern not only of deeply committed workers and specialists but when it is tackled with the same consistency as the solution of production tasks.

CSO: 5000/3013

BRIEFS

ENVIRONMENTAL COUNCIL—Grenada has launched an Environmental Co-ordinating Council, Miss Jill Sheppard, Executive Director of the Caribbean Conservation Association (CCA) Secretariat has said. Miss Sheppard made the announcement during the CCA's monthly Press meeting held at the organisation's headquarters at Savannah Lodge, Garrison, St. Michael. The Executive Director who attended the official meeting regarding the start of the council last week, said the formation of the organisation showed Grenada had recognised the need for further co-ordination of environmental bodies on both the national and regional levels. She said representatives from four of Grenada's Ministries were on the executive of the council, including the Minister of Agriculture, who was acting as chairman. The council, she added, made provision for both governmental and non-governmental organisations and their first priority, it was decided would be for the setting up of a national park there. [Excerpt] [Bridgetown SUNDAY ADVOCATE in English 10 Apr 83 p 2]

CSO: 5000/7565

DANGERS SEEN IN NEW WATER WELLS FOR METROPOLITAN AREA

Mexico City PROCESO in Spanish 4 Apr 83 pp 18-19

[Article by Miguel Cabildo: "Federal District in Danger of Becoming Sunken Desert"]

[Text] Something which several months ago was discarded as being unwise and risky is today becoming the medium-term "solution" for the water shortage problem in the Federal District: Drill more wells in the Valley of Mexico.

In contradiction to the official arguments brought out by the preceding administration, also in contradiction to the recommendations contained in the studies made by the Department of the Federal District itself, Manager Ramon Aguirre Velazquez has opted for a desperate way out, knowing full well that the damage caused by the overuse of the aquifer strata is irreversible.

On 13 March, Aguirre Velazquez announced the drilling of 24 new wells in Xochimilco, Iztapalapa, and other points in the Valley of Mexico which, he said, would make it possible to normalize the supply of water in 1985.

Even though the capital's subsidence is aggravating other problems. Even though the overuse of underground strata speeds up the ecological deterioration of the Valley and increasingly deprives the inhabitants of the possibility of obtaining minimum living standard levels.

Because of the inefficient exploitation of the aquifers, Mexico City is suffering an average subsidence of between 20 and 30 centimeters each year. For the rest of the century, subsidence will reach 10 meters in some areas.

The recommended thing is to slow down the overuse of aquifers, not to increase it. This was noted by the management of Water Power Construction and Operations of the DDF [Department of the Federal District] itself in a study which was forwarded to President Miguel de la Madrid: It is necessary to reduce the harm deriving from this overuse since the damage caused by the settling of the ground is irreversible.

In this regard, engineer Ruben Valencia Sanchez, an expert from the National Polytechnic Institute on hydraulic systems, explains that the subsidences affect not only structures but also seriously damage the water system due to

the rupture of the drinking water supply and drainage lines. "The drilling of more wells is not to be recommended; it would only make the problem worse," he said.

More Wells, More Subsidence

The drilling of the first wells in the Valley of Mexico dates back to the beginning of the century. The first system of wells which was built was the Xochimilco system at the end of 1913. It supplied 2,400 liters per second for the consumption of a little more than half a million inhabitants.

That population had doubled by 1930. It was then necessary to drill more wells which caused growing land subsidence in various areas, damaging the drainage system causing floods. However, underground water extraction was continued.

The increase in the demand forced the authorities in 1942 to seek outside supply sources for the city. The first system was then established for bringing water from the springs of the Upper Lerma River; but a short time later it was necessary to drill wells in that area since the springs ran out rapidly.

By 1953, Mexico City, with 3.5 million inhabitants, was supplied with 14,300 liters per second, coming from the areas of Xochimilco, Lerma, Desierto de los Leones, and Ajusco, plus the city and private wells. The administration of President Adolfo Lopez Mateos during the early 1960's decided to stop the drilling of wells and even to close some already existing ones due to the serious subsidence observed in the city's center.

Since then, we have all been fully aware of the dangers of overuse of the aquifers in the Valley.

When the collection of 4,000 liters of water per second from the first stage of the Cutzamala system was announced in 1982, the capital's government headed by Carlos Hank Gonzalez once and for all restated the decision not to open new wells in the Valley of Mexico.

From those we now have we get 50 cubic meters per second but we only put back between 20 and 25 cubic meters because of advanced soil degradation.

The management of Water Construction and Operations of the DDF is operating three well systems: the so-called Xochimilco-Mixquic-Xotenpingo, in the south-east of the DF [Federal District] with 12 wells; the Chiconautla system, north-east of the capital, with 39 wells, and the city well system which amounts to 197 wells, distributed throughout the city.

DDF studies furthermore indicate the existence of 563 wells operated by private individuals.

Besides, there are the five systems operated in the south and in the surrounding areas to the north of the city by the Mexico Valley Water Commission, established in 1972 which delivers water both to the capital and the metropolitan areas in the State of Mexico.

Overall, we have 1,336 wells in the valleys of Mexico and of the Upper Lerma whose operation constitutes serious overuse of the underground strata in both areas.

The subsidences caused by this affect not only the DF. In the basin of the Upper Lerma, hundreds of hectares of cropland are subjected to jointing and vast terrain areas are sinking due to the extraction of water from 350 wells. Irreversible ecological damage has been caused here and this has obstructed any and all economic and social development.

In a study prepared by the State Water and Sanitation Commission of the State of Mexico, it was indicated that, out of the 110,000 hectares of irrigated land in the state, 77,000 are located in the valleys of Cuautitlan, Texcoco, and the basin of the Upper Lerma. However, the water that is found here has been reserved exclusively for urban use.

But the overuse of the aquifers is greater than officially admitted. Engineer Valencia Sanchez, of the IPN [National Polytechnical Institute], says that there are hundreds of secret wells in the Valley of Mexico, above all in industrial areas, operated by private individuals. This is why this specialist recommends that, instead of opening more wells, the authorities of the DDF should act to control those secret wells.

Serious Ecological Damage

The plans drawn up by the authorities however do not contain any action aimed at restoring the underground water levels whose accelerated exhaustion is expressed in ever more serious ecological damage.

Attorney Jaime Sanchez Duarte, former deputy coordinator for Agricultural and Livestock Development of the Federal District, asserted that preserving the rural area of the city means guaranteeing it an ecological reserve, re-filling the overused aquifers, and preventing their contamination.

The panorama described by Sanchez Duarte is rather discouraging.

The Valley of Mexico has already lost 73 percent of its forest, 99 percent of its lakes, and 71 percent of its soil, which is in a "process of advanced degradation."

He explained that the overuse of aquifers, combined with the disorderly growth of the urban strip, has not only promoted soil degradation but has also caused a major change in the climate. The city's temperature is 1.4 degrees Centigrade higher and lower (as published) than 50 years ago, with an advance of 2 hours for the maximums.

Sanchez Duarte warned that, if this process continues, which is now the trend, the area will change from a semi-humid climate to a desert climate. The "islands of heat," which have been generated in the city's center and in the industrial areas, show a difference of more than 8 degrees Centigrade compared to the rest of the city.

He presented a voluminous description of the damage:

The woods in the Federal District lost 83 percent of their trees which now cover only 34 percent of the original area; the forest fauna has been wiped out; biological control between the species has been altered to the point where it is almost wiped out.

Sanchez Duarte explained that the loss of the woods affects the refilling of the aquifers in the south of the capital, which supply 6 cubic meters of water per second or 20 percent of the total pumped out of the subsoil in the Valley.

A recent study prepared by the Coordinating Commission for Agricultural and Livestock Development of the Federal District, under the DDF, warns that, if this process of degradation were to continue, the consequences would be unfortunate indeed. It lists them as follows:

Disappearance of agricultural areas due to inefficient exploitation will cause soil deterioration;

The disappearance of wooded areas will cause the erosion of the vegetation cover;

Rainfall and wind erosion of the soil, which would cause the silting of the city's drainage networks, would prevent rainwater from being retained and absorbed by the subsoil so as to refill the aquifers in this part of the Valley and it would create a source of sinkholes for the metropolis;

Human settlements in the south of the city, on soil made up of basalts covered by a thin vegetation layer would certainly contaminate the aquifers in the Valley of Mexico;

Green areas intended for recreation would shrink while the population would go up at the same time.

The study underscores the fact that, in this context, if the government does not radically promote efficient use of resources and agricultural and forest spaces, for the sake of the social interest "millions of city inhabitants, having no place other to live than in their current microuniverse, would have no possibility of attaining even a minimum living standard."

Preserve or Die

Attorney Sanchez Duarte, the chief promoter of the above-mentioned study, says that soil uses must be in keeping with the maintenance of the ecological balance or its restoration; it is also necessary to maintain the cultural heritage of the peasant and to raise his living standard.

For this purpose, he adds, preservation and refilling of aquifers in the Valley of Mexico is vital. And he proposes the expropriation of Ajusco and of all agricultural and forest areas in the DF to be declared a national park.

In 1936, President Lazaro Cardenas created the Cumbres del Ajusco National Park. It covered a vast area south of the DF and large areas in the states of Mexico and Morelos. But during the administration of Miguel Aleman Valdes, the operation of these forests was awarded on a concession basis to the Loreto y Pena Pobre Company which meant that the park was reduced to only 900 hectares.

Irregularities and speculation with common lands as well as the advance of the urban strip according to Sanchez Duarte threatened the disappearance of 70,000 hectares of open agricultural and forest spaces which could well constitute the Metropolitan National Park of Mexico City.

"This is the only way," he says, "we could guarantee a better water supply since the aquifers would maintain adequate collection."

The "solution" announced by manager Aguirre Velaquez--which provides an emergency response to the growing discomfort of the citizens of the capital due to the water shortage--flies in the face of any attempt at preservation. It saves the moment at the expense of the future.

5058

CSO: 5000/2024

EFFECTS OF NATURAL DISASTERS ASSESSED

PY131915 Madrid EFE in Spanish 2033 GMT 11 Apr 83

[Text] Lima, 11 Apr (EFE)—The natural disasters that have been affecting Peru for months have caused a loss of \$800 million and have affected approximately 2 million persons.

On the one hand, the floods, the overflow of rivers and landslides in the northern and central regions of the country, and on the other hand, the drought in the south, especially in the departments of Arequipa, Puno, and Apurimac, have burdened the country with anxiety.

The newspaper EL COMERCIO today released an assessment of the effects of the natural disasters. It says that the highway system has been perhaps the most seriously affected, with a loss estimated at \$150 million.

Hundreds of kilometers of highways and more than 40 bridges have been destroyed by the overflow of rivers, while torrential rainfalls continue in northern Peru.

The landslides have caused some damage to the oil pipeline in northern Peru. The loss caused by the time during which no petroleum was pumped amounts to \$30 million.

The petroleum field of Talara, northern Peru, was also affected by these natural disasters. A refinery and a carbon black plant were damaged.

To all this we must add thousands of hectares under cultivation and hundreds of houses that were destroyed.

Some northern cities such as Piura, Tumbes and Trujillo have been flooded several times and their inhabitants have to move in boats.

Paradoxically, while the northern and central regions "are drowning," large sectors in the southern and southeastern regions of the country have been affected by an unusual drought that has forced the peasants to emigrate.

It was reported today that the southern Department of Arequipa has been declared in a state of emergency as a consequence of the drought which has destroyed almost all the agricultural and livestock production in the zone.

As former Prime Minister Manuel Ulloa stated a few days ago, Peru is facing a disaster only comparable to the situation the country experienced as a consequence of the war against Chile more than a century ago.

THREAT TO FOREST LAND REPORTED

Nairobi THE STANDARD in English 22 Apr 83 p 3

[Text]

THE MINISTER for environment and Natural Resources, Mr. Odongo Omaso, said yesterday his Ministry had been resisting pressure from certain individuals for excision of forest estates for their use.

"The forest land, which is less than 3 per cent of Kenya's total land, is being threatened by requests through pressure for excision and we will continue to resist this", said the Minister during talks he held with the Swedish Ambassador to Kenya, Mrs. Cecilia Netzbrandt, at his office.

He said his Ministry was faced with the task of finding ways of increasing the present forest area through afforestation of the gazetted and rural areas.

Problems

Mr. Omaso, who thanked the Swedish government for the interest it had taken in promoting community forests in the country, said the rural afforestation programme, however, faced problems of collecting seedlings, establishing tree nurseries and the personnel to supervise the work.

He said agro-forestry had to be encouraged to create a ba-

lance for the betterment of the environment.

Mrs. Netzbrandt, who told the Minister that her country took a keen interest in environmental matters and regarded forests as her country's gold, promised the Embassy would support a request for assistance from the Swedish Fund for the Shs. 300 million euphorbia experimental project at Loruk in Baringo district.

Euphorbia, a kind of tree species is capable for growing in arid and semi-arid conditions. The plant will also provide raw material for power alcohol if the Loruk project succeeds.

The ambassador said a Swedish delegation would soon visit Kenya for negotiations on the 8th aid programme to Kenya, which she hoped would be increased.

She told the Minister that unlike other donor nations, her country believed it was up to the recipient (Kenya) to choose what type of development it wanted most. "We would not decide for Kenya what sort of development it wants" she said.

Meanwhile, Mr. Omaso leaves today for Helsinki, Finland, at the head of a Kenya delegation to attend a two-week UN Habitat conference opening on Monday.

GOVERNMENT BLAMED FOR WATER CRISIS

Lack of Foresight in Plans

Johannesburg THE STAR in English 21 Apr 83 pp 1, 11

[Article by Stephen McQuillan]

[Text] Government short-sightedness may have contributed to the water crisis in which South Africa finds itself because of the drought, it was said today.

More dams, canals, irrigation schemes and pipelines could have been built within an elaborate national water network had it not been for severe Government cash squeezes.

This is indicated in an article by the former Secretary of the Department of Water Affairs, Dr Jacques Kriel, in the Human Sciences Research Council's "RSA 2000" magazine.

"It is quite possible that if a severe drought occurs during the next ten years, serious water shortages may be encountered because of the backlog in water projects, resulting from the limitation of expenditure," he said.

Dr Kriel made that statement in September — before the seriousness of the coming crisis became apparent.

"It seems obvious the Government has not been spending enough on water projects," he said today.

But the Directorate of Water Affairs strongly denies it has been lacking.

"There is no way we could have foreseen this crisis," said Mr Anton Steyn, PRO for the Department of Environment Affairs.

"The cuts hit everything, apart from black education and defence. We plan 50 years ahead and no more. There were few big schemes which suffered because of the cuts."

The 1970 Commission of Inquiry into Water

Matters estimated that total capital expenditure on water schemes from 1970 to the year 2000 should amount to R8 300 million, of which the Department of Water Affairs would have to spend about R6 300 million — an average of R210 million a year.

But, because of inflation, that reflected an increase from R6 300 million to R17 325 million by 1980.

"Because of the increase in real as well as inflated costs ... it is obvious that annual expenditure on the planning, construction and operation of water schemes should increase substantially if demands are to be met," said Dr Kriel.

The Government was warned as far back as 1970 that huge amounts of cash were required for water projects.

Professor Desmond Midgley, former professor of hydraulic engineering and director of hydrological research at the University of the Witwatersrand, said he hoped the Treasury would learn a lesson from the crisis and not remove money needed for building an effective water and power infrastructure.

Professor David Stephenson, director of water systems research and professor of hydrology at the University of the Witwatersrand, said the agricultural sector would have benefited from crop irrigation schemes and projects shelved or slowed down because of the cash cutback.

State Ignored Water Threat

Johannesburg THE STAR in English 21 Apr 83 p 11

[Article by Stephen McQuillan]

[Text]

A commission of inquiry warned the Government 13 years ago that "more effective planning and development" of water resources was needed. Nevertheless, cuts were made to the Department of Water Affairs budget. Government experts say they did their best — outside experts disagree.

The Government was urged to vastly increase expenditure on major water-engineering projects 13 years ago.

The Commission of Inquiry into Water Matters, launched by the Government, warned of serious water shortages before the end of the century unless there was "more effective planning and development" of water resources.

"Maintenance of a balance between supply and demand will in future call for huge and steadily increasing capital expenditures," said the commission report.

Despite the warning, severe restrictions on the cash flow to the Department of Water Affairs were ordered.

From 1975/76 to 1980/81 the department's budget increased by a mere R72.19 million.

In 1977/78 the budget was cut from R162.46 million to R154.13 million.

By 1980, according to the former Secretary of the Department of Water Affairs, Dr Jacques Kriel, the budget should have been running at R200 million instead of R218.24 million.

As cuts in electricity supply and water rationing are set to sweep the country because of the drought, did the Government miscalculate or disregard its obligation?

Did it allow major engineering projects to be either shelved or slowed down because of the cash squeeze?

Leading independent water experts suggest it did. The Government says it did not.

"There is no way we could have foreseen this crisis," said Mr Anton Steyn, public relations officer for the Department of Environment Affairs, which controls the Directorate of Water Affairs.

"Very few big schemes suffered because of the cuts."

He did admit that the Kloof canal scheme and dam projects had been shelved, though the dams would "not have alleviated" today's problem.

"Of top priority projects, not one was shelved."

Others disagree.

Professor David Stephenson, director of water-systems research and professor of hydrology at the University of the Witwatersrand, said that agriculture — badly hit by the drought — would have benefited from crop-irrigation schemes, projects shelved or slowed down because of the cash cutback.

Professor Desmond Midgley, former professor of hydraulic engineering and director of hydrological research at the University of the Witwatersrand, said that when the cash stopped, important projects were affected.

Woodstock Dam on the Tugela River was delayed, along with pumps and canals to the Eastern Transvaal from the Usutu River and Komati Dam

on the Komati River. Dams on the Usutu were still not built.

Construction of the Balmoral Dam on the Upper Vaal had not been started. "Various dams, canals, pipelines and tunnels were delayed," he said.

The Lesotho Highlands Scheme, on the Upper Orange River, was designed to supply the Upper Vaal by tunnel.

The scheme had not started because of political wrangling, though the cash may not have been available to enable water engineers to act quickly.

"I think that the Treasury should be most careful about cutting funds in the future. It should have learned a lesson," said Professor Midgley, who worked for the Department of Water Affairs for 21 years.

"I remember working out years ago that the Department should have been spending about R400 million a year."

Expert staff had left the because higher wages could be had in the private sector and the department was now more reliant on contractors.

"If there is no staff left to plan and design projects, it is no use having the money."

South Africa had an elegant, long-term plan to establish an overall water network, and that had been held up by cuts.

"It seems the Government did not realise or appreciate the importance of water or power in a country like this," said Professor Midgley.

Dr Kriel said that more than three times the present number of dams were needed.

The country also needed improved international relations, co-operation of the public, efficient water use and increased water prices to ensure frugal use of the supply.

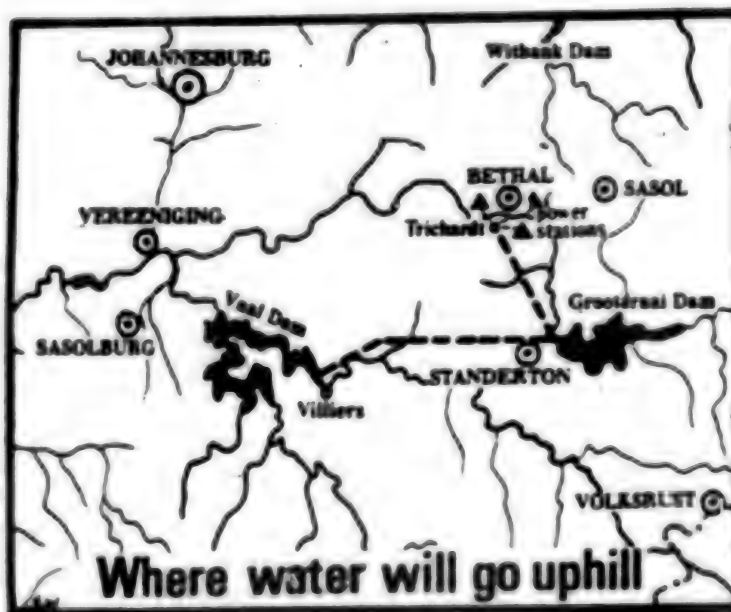
GOVERNMENT'S EMERGENCY DROUGHT PLAN COMES UNDER FIRE

Johannesburg THE STAR in English 20 Apr 83 p 11

[Article by Stephen McQuillan]

[Text]

The Government's R33 million scheme for supplying water to the power stations in the Eastern Transvaal has come under strong criticism from experts who fear for the purity of the water which will be left for the Witwatersrand.



Against the growing threat of severe water and electricity crises, the Government has been accused of approving the wrong plan for resupplying power stations in the Eastern Transvaal with water.

The accusation was made by Professor David Stephenson, director of water systems research and professor of hydrology at the University of the Witwatersrand.

The plan, which is expected to cost R33 million, has already come under fire from several independent experts.

They have misgivings because the plan calls for fresh water to be pumped to the power stations from Vaaldam, leaving consumers with less pure water from the Vaal Barrage.

"There will be a lot of dissatisfaction on the Witwatersrand because the new scheme is to take fresh water," Professor Stephenson said.

"It now seems that our water will ultimately be supplied from the Vaal Barrage, south of Vereeniging.

"All the streams, rivers, drains and effluent from Johannesburg and the Witwatersrand area flow into this weir. We will be left with a less pure fresh water supply."

Professor Stephenson said it would be more expensive to purify this contaminated water.

Industry would be hit because all the impurities in the water could not be removed.

It would cause scaling and corrosion in pipes and factories would ultimately have to face higher maintenance costs.

"It would have been far better to send this impure water to the power stations and leave the fresh water for the Witwatersrand," he said.

Power stations could have been serviced with pumped water from the sewage works on the outskirts of Johannesburg.

"It would appear from the map that less pumping would have been involved and it would have been a far cheaper, better idea," the professor said.

Water supplies to the Vaal Triangle were already being mixed with water from the Barrage but, as water was taken from Vaaldam for the new scheme, more contaminated water would have to be used.

Professor Stephenson said it was unlikely that water from Sterkfontein mountain dam would be used to re-supply Vaaldam until it became nec-

essary. There was less evaporation from Sterkfontein because of its high altitude.

"I can imagine a dispute developing between the Rand Water Board and the Government," he said.

He also said that the Government was optimistic in its prediction that the scheme, which will take water from the Villiers area of Vaaldam, could be completed in five months.

A more permanent project, such as a pipeline, would have been better.

Professor Desmond Midgley, former professor of hydraulic engineering and director of hydrological research at the University of the Witwatersrand, said logistics for the government project would be a big problem.

It was a big undertaking for a stopgap measure, said Professor Midgley, who worked for the Department of Water Affairs for 21 years.

"I would have preferred to have seen a permanent link — a pipeline — to connect the Tugela River with the power station complex," he said.

"The present scheme will not be permanent. It may get washed away when we eventually get heavy rain."

The scheme involves pumping water up-river through seven dams, made from stone and soil, to be constructed over a 100 km stretch of the Vaal River.

"When the floods come, they are bound to fail," Professor Midgley said.

"The Komati and Usutu rivers cannot meet all the power stations' future requirements. So why not build a permanent link now?" he said.

Mr Bert Boonzaaier, liaison officer with the Directorate of Water Affairs, said pump stations, built as part of the new project, would be permanent and the Government might consider building a permanent link later. This was not a priority at the moment.

SEPTEMBER RAINFALL SEEN CRUCIAL TO SURVIVAL OF AREA

Johannesburg THE STAR in English 21 Apr 83 p 1M

[Text] If it does not rain in September the drought-stricken Pretoria-Witwatersrand area will face a harrowing time.

"We will get slight rain until September, but not enough to fill the dams," said Mr Frank Oldfield, a former chief mechanical engineer of the Department of Water Affairs.

September, November and March were the main rainfall months in these areas and water restrictions should have been imposed after the November rainfall had not been normal, he said.

"People must not take it for granted that when they turn on the tap the water will always be there. Nobody must think the drought is over until the Vaaldam refills."

Mr Oldfield has witnessed situations he would not like to see repeated in Pretoria and on the Witwatersrand.

During the drought in East London in 1949 each person was restricted to 18l of water a day. In the 1950 drought in Queenstown a limit of 45l a day was imposed. The spring rains broke both droughts.

Mr Oldfield points out that four-fifths of the water used in the Pretoria, Witwatersrand, Vaal Triangle area comes from the Vaaldam.

There is only one station pumping water to Johannesburg. What would happen if disaster struck?

Disaster could lower the daily supply from the Vaaldam so that industry would have to shut down, ensuring that sufficient water was available for domestic purposes to avoid disease.

In the meantime, everyone must save water until the dam is refilled.

Water was needed for generating electricity. The water is recycled but not all can be reclaimed.

"How much water goes down the drain when lights are left on unnecessarily?" Mr Oldfield asked.

He mentioned buildings such as Unisa and Munitoria where the lights blaze all night.

People dependant on boreholes should also ration themselves, he said. Their duty is to try to maintain the natural water level.

No swimming pools should be built and pools should be covered — we might still need that water, Mr Oldfield said.

People should read their water meters and check consumption on a daily basis.

A fair average consumption a head was 300l a day for all domestic uses, excluding gardening.

DURBAN'S WATER SUPPLY CONTINUES TO DIMINISH

Durban THE DAILY NEWS in English 18 Apr 83 p 3

[Text]

PINETOWN: Water levels in the Midmar and Albert Falls dams, the Durban area's main water supply, dropped another 0.5 percent last week and are now only 16.2 percent full.

At Pongolopoort in Northern Natal, which serves the parched Makatini Flats, the dam level has dropped to only 1.5 percent.

Mr Fred Munro, circle engineer for the Department of Water Affairs in Natal, said that although consumers had saved an overall 31.7 percent compared with the same week last year, the Durban area had enough water to last only another 32 weeks if consumption continued at the same rate.

"Then the dams would be dead empty," he said.

He said the time had come for people to "stop using as much water as they were officially allowed and to start using as little as possible."

Mr Munro said that although 33 mm of rain had fallen during the sudden storm at Pietermaritzburg on Friday, this had done nothing to improve the levels of the dams there.

"We would need three days of rain before there would be any effect".

He said that at Newcastle, where the low level of the Chelmsford Dam had forced the closure of the power station, the dam had now dropped to only 5.5 percent of its capacity.

The Goedtrouw Dam at Esbome was only 10.6 percent full.

In the Natal Midlands,

the situation was better. Craigieburn, which supplied the Muden area, was 78 percent full and Estcourt's Wagendrift Dam was 93 percent full. The Hazelmere Dam near Verulam was 84 percent full. The reason the situation was better at these three was that they had been "over-designed". Expansion in the area had not gone ahead as quickly as anticipated.

Mr Munro said that although the drought was possibly the most serious on record, a number of factors were aggravating the situation. Apart from the increase in population and industry, intensive farming had brought a record agricultural demand for water.

CSO: 5000/170

PLAN TO REVERSE FLOW OF VAAL RIVER REPORTED

Johannesburg THE STAR in English 19 Apr 83 p 1

[Article by Stephen McQuillan]

[Text] The Government is today assembling a small army of construction workers to build its multimillion rand emergency project, launched in a bid to ensure a continued supply of electricity from South Africa's most vital power complex in the Eastern Transvaal.

The Directorate of Water Affairs in Pretoria is mobilising about 400 construction workers who will simultaneously build the complex of dams, pump stations and short stretches of pipeline at five points along the route.

The R33 million plan involves reversing the flow of the Vaal River for 100 km from the Vaal Dam to Grootdraai Dam at Standerton.

Engineers are fighting a race against time to halt the predicted breakdown in electricity supply and disruption of the production of oil from coal at the giant Sasol plants nearby.

Eskom and Sasol are believed to be con-

tributing about R7 million to the project.

Construction work should start some time next week after project planners have been able to transport their heavy equipment to the sites. Separate water and electricity supplies will have to be rigged at the work camps and new access roads will have to be made.

The river flow will be reversed by systematically pumping water over several embankments on the Vaal River and seven more dams will be built.

Water will be routed from Grootdraai Dam through Trichardt pumping station to power stations at Camden, Kriel and Arnot, and to Sasol Two and Three at Secunda.

The decision to go ahead with the project was prompted by the dangerously low level of the Usutu River, which normally feeds the power stations. Water is vital for power station cooling and for steam to generate turbines.

NEW DAM TO BE BUILT AGAINST DRAKENSBURG ESCARPMENT

Johannesburg THE STAR in English 21 Apr 83 p 11

[Article by Sheryl Raine]

[Text]

A new dam to meet the demands of the increasing population in QwaQwa is to be built high up against the north-eastern escarpment of the Drakensberg.

QwaQwa, one of several homelands granted drought relief aid recently, is to get a second dam to augment its water supplies.

Tenders have been called for the construction of the Fika Patso Dam. It will be built on the Namahadi River near Mont-aux-Sources.

The dam will be completed in three years. But within two years it should be able to supply water to the homeland on a temporary basis.

It is expected to meet water demands in the region for the next 15 to 20 years, depending on population growth. QwaQwa has an official permanent population of about 232 226.

Apart from natural population growth, which is high, the region has had to accommodate, in keeping with the resettlement of homelands policy, an influx of new Sotho citizens.

The name Fika Patso means split rock in South Sotho and was chosen because the dam will be built on the site of a split rock mass nearly five metres high.

It is possible to walk through the split, but this natural feature will be absorbed into the construction of the dam.

Apart from the dam itself a network of pipes will be constructed to carry water to several rural settlements.

High up against the north-eastern escarpment of the Drakensberg, the dam will collect almost pure mountain water, requiring minimum treatment.

Built on the Namahadi River, a tributary of the Elands River, the dam's altitude will ensure minimal evaporation and almost no siltation.

A rest camp will be built at the dam for use by anglers, hikers and mountain climbers.

'MERCILESS' DROUGHT RAVAGES NORTHERN CAPE

Johannesburg SUNDAY TIMES in English 17 Apr 83 p 9

[Article by Mike Hewitt]

[Text]

FOR seven years Boesmanland in the Northern Cape has been ravaged by a merciless, seemingly unending drought — the worst in the country's history.

And now, with little chance that rain will fall this year, the land has gone sour — it may never again regain the former bounty of grasses which once made it a sheep farming mecca.

The daily deaths of old sheep, too weak and hungry to live any longer will continue.

Graveyard

Already the baked, red sand of Boesmanland, is a graveyard of carcasses.

But the tough farmers of this scrubland territory have more to worry about than dead sheep.

They can barely manage to find the fodder to keep the rest of their flocks alive.

"We can't get enough lucerne and debts are running high," said farmer Gert van Zyl.

"And the underground water supply is fast drying up.

"On the veld itself, there is not a blade of grass left for grazing.

"This drought has now passed the stage of a disaster

But the Boesmanlanders — whose territory centres on Pofadder between Upington and Springbok — refuse to quit.

Guided by a philosophy that every day without rain is

a day closer to the big rain, the hardy farmers eke out an existence.

Often they see the sky fill with rain clouds from the north or east.

Then a relentless westerly wind always blows away the clouds... and their hopes and prayers.

They need at least two consecutive seasons of good rain to break the drought's iron grip on the sun-scorched land.

Now they hope that the seven years of famine signals the end. Next year the seven years of plenty may begin.

"If not, more sheep will continue to die," said Pofadder's mayor-cum-farmer, Dr Ockert van Schalkwyk.

Life-blood

"The permanent vegetation will also die out — and we cannot go on forever bringing in lucerne to feed the sheep."

Lucerne is the life-blood which has kept the Karakul and dorper sheep industry alive.

But the farmers are perturbed at rumours that the scarce "green gold" is being exported to Australia.

Although they receive financial aid from the State, lucerne is so hard to come by that farmers have been forced to resort to illegal means to acquire it.

They buy the precious commodity directly from lucerne farmers on the banks of the Orange River.

This is a forbidden practice as the lucerne must be

bought through co-operative societies.

"Already we feed the sheep only enough to keep them alive.

"It is a pitiful situation," said Dr van Schalkwyk.

The farmer has to lay aside R40 a day to keep 120 sheep alive, and most farmers have flocks of about 2 000 head.

However the State provides a 70 percent subsidy to a maximum of R4 000 a month.

But for a farmer like Mr Gert Niemoeller — the millionaire sheep baron of Boesmanland — the subsidy is almost worthless.

He has a flock of 13 000 head of Karakul sheep on his 90 000 hectare farm "Klein Pella", 55km from Pofadder.

"Over and above the havoc and destruction caused by the drought, the bottom has fallen out of the Karakul industry," he said.

"From a high of R23 a pelt, we now only get R10.

Hopeless

"But it is the drought which keeps us living in uncertainty, never knowing when and if it may be broken.

"As far back as two years ago we thought that the drought had already brought us to our knees.

"Now it just seems hopeless. We can't believe that we have to spend another year without rain.

"All I can do is shake my head and laugh or cry."

The farmers in the area say that they need at least 25mm of rain immediately, followed by another similar fall in three weeks, to break the drought.

But the rainy season is due to end in two weeks.

And without the life-giving rains, the grasses indigenous to the area — ghagras and boesmangras — already eaten to the roots by the sheep, could die out.

Already termites have attacked the gramin.

DROUGHT CAUSES STARVATION AMONG RURAL CHILDREN

Johannesburg RAND DAILY MAIL in English 18 Apr 83 p 1

[Article by Liz McGregor]

[Text]

**THE crippling drought in South Africa
is causing widespread starvation
amongst rural children.**

In the Northern Transvaal alone, the number of children admitted to hospitals with kwashiorkor has more than doubled as a result of drought-induced crop failure.

And authorities warn that a winter of acute starvation and rampant disease lies ahead.

The plight of farmers ruined by the drought and the loss of livestock have received widespread Press coverage. But the human tragedy being played out in the malnutrition wards of the remote "homeland" hospitals has gone largely unreported.

The combined effect of the crop failure and the retrenchment of many migrant workers as a result of the economic recession has brought thousands of rural families to the brink of starvation.

Even the temporary relief normally afforded by seasonal labour on the surrounding farms has failed because farmers ruined by drought do not need any extra labour this year.

Dr M Mphahlele, Lebowa's Secretary of Health, has told

the Rand Daily Mail that the late summer crops, which normally fed people during winter and were used to convert to cash for shop-bought commodities, had almost totally failed as a result of the drought.

Malnutrition had reduced resistance — particularly that of children and old people — to the usual winter infections. Illnesses such as measles, respiratory infections and malnutrition-related diseases were escalating and were more likely to be fatal, he said.

Dr Mphahlele, who is also chairman of Lebowa's Drought Relief Committee, warned that the level of illness would increase between two and three times this winter.

Most rural settlements had no safe, piped water and no sanitary facilities. The limited water available from rivers and boreholes were likely to become polluted with the gastro-intestinal illnesses such as typhoid.

A visit by the Mail to Northern Transvaal hospitals and clinics revealed wards full of children suffering from kwashiorkor. Hospital authorities reported a two to three hundred percent in-

crease of children suffering from kwashiorkor and malnutrition.

Lebowa's Sebaco clinic, which serves a community of about 25 000 people just south of the University of the North, has had one kwashiorkor death a week since January this year.

The usual death rate is between five and 10 a year.

The drought is evident everywhere in the wilted, scorched crops, dying trees, dried river beds and bone-thin cattle, donkeys and goats.

The water shortage is affecting even the few medical facilities that do exist in the remote rural areas. Many clinics are completely without water. Two clinics attached to the Heineke Farm Hospital in Bechuanaland have to fetch water daily from the hospital.

Jane Furse Hospital, which serves a community of 100 000 in Sekhukhuneland, was recently entirely without water for 72 hours.

Farmers in the area have been ruined by the intense drought of the past two years. All the dams in the area have dried up and the few boreholes that are yielding any water are rapidly drying up.

GAME FARMS LITTERED WITH BUCK CARCASSES

Johannesburg SUNDAY TIMES in English 17 Apr 83 p 8

[Article by Anthea Tasker]

[Text]

GAME farms in the drought-stricken Northern Transvaal are littered with the carcasses of precious trophy animals.

Now some of the game farmers in the Tshipise area — in the extreme north-eastern corner of the country — are catching the animals to sell them to other farmers who still have grazing areas so that the remaining stock will not die.

Mrs Helen McDonald, of McDonald's Wildlife Ranch, said:

"There is absolute carnage, carcasses litter the land. The smell is awful.

Moonscape

"We had a wee bit of rain last week and now there are a few leaves on the previously-bare mopani trees, but it is like a moonscape desert."

The problem is not so much that there is a shortage of water — there is ground water — but that without the rain there is no grass and no leaves and nothing for the buck to eat.

Their game farm has been the McDonalds' total livelihood for five years.

"In 1980 we had over 2 000 animals of various species and we had begun to build up our numbers," said Mrs McDonald.

"But since last May we have had no rain. The animals have nothing to eat.

"Three weeks ago we counted 1 240 animals but we have lost a lot more since then."

The animals most heavily affected are the rare buck like the kudu.

"We have tried to put feed out but baboons snatch it and throw it around — it just doesn't work," she said.

However, wildebeest, giraffe and zebra seem to be managing to find food.

But the leopards are doing splendidly with the fresh carcasses reaped from each day's burning sun and drought-parched land.

Mr Peter Nott, of Greater Kudu Land Safaris, said it did not help for the "armchair conservationists" to criticise the game farmers' system of trophy hunting for wealthy tourists at a time like this.

Expensive

"The trophy hunters provide the income for feed for the starving animals.

"Feeding the animals is a very expensive operation. I have a tractor which has to travel kilometres every day to distribute the feed.

"I would like to ensure that the rare animals, sable, waterbuck and kudu, get the feed, but it is usually the warthogs and baboons that get it all.

"It has become very much a survival of the fittest and fattest."

SUPERMARKET CHAIN SUBSIDIZES FOOD FUND

Johannesburg SOWETAN in English 2 May 83 p 2

[Text]

MASS starvation and possibly death in drought-stricken and hunger-ridden parts of the country is likely to be averted if an anti-hunger appeal sent out by a major supermarket chain is successful.

Checkers supermarket this week launched a massive campaign aimed at fighting starvation in the country, especially in the homelands. The campaign is led by the supermarket's managing director, Mr Gordon Utian.

Mr Utian said the supermarket would make available a sum of R100 000 every week to help subsidize basic food stuff. Among the food earmarked for subsidy is maize meal — a staple food for millions in the country — milk powder, soya products and tinned meat and fish. The products will be varied daily to help consumers make the best of the offers.

The Government was also urged to remove GST charges on basic foodstuffs.

Mr Utian called on other companies in the private sector to participate in the scheme.

Checkers initiated the campaign, he said, but this did not mean the campaign belonged to the chain.

Outlining his plan for the participation of other companies Mr Utian said companies producing the most suitable types of food could give merchandise stock and, where safety is assured, date expired merchandise which is not normally sold. Other companies could give cash and nominate a company through which the products will be channelled. Service sector companies could give cash and make facilities available through which the public could participate.

The stock will be advertised under the "Save-a-Rama" banner and will be advertised on radio and television.

Mr Utian also called on the public to support the campaign. Food bins will be made available at all Checkers and Big D supermarkets for members of the public to donate whatever they can afford.

BRIEFS

HYDROPONICS ADVOCATED--Hydroponics, an American-developed crop-growing process which saves 90 to 97 percent of water needed to grow field crops by using re-cycled water in a controlled environment, may be promoted in South Africa as a measure against drought. Simply defined, hydroponic growing is the cultivation of plants without soil. Researched and developed by Hydroculture Incorporated, it offers a space-age alternative to present crop-growing methods. No arable land is required and Hydroculture claim the equipment produces superior crops in a far smaller space during a shorter timespan. According to Hydroculture's South African representative, the units will be marketed here "if there is a demand for them". "The units certainly provide a viable economic alternative in times of drought," the representative said yesterday. [Excerpts] [Capetown THE CAPE TIMES in English 15 Apr 83 p 5]

ODD WEATHER EFFECTS--Highly unusual weather patterns, including the virtual absence of the south-easter, caused major changes in marine conditions off the west coast of South Africa this summer. The unusual features are discussed in a report released yesterday by Dr Vere Shannon, assistant director of the Sea Fisheries Research Institute. Dr Shannon said indicators of unusual marine phenomena near Cape Town were already evident last summer (1981/82), but these had become even more pronounced this year. They included: The virtual failure of the south-easter, the occurrence of about 50 percent more cold fronts. Rainfall in the interior was well below normal, while it was above average in Cape Town and "excessively" high at Gough Island. An altered distribution and composition of pelagic fish catches, with records between January 1 and March 20 this year. Unusually warm sea surface temperatures along the West Coast and the abnormally close proximity of a warm oceanic front to the coast. Unusually high sea levels were recorded. The unusually high incidence of blue-bottles on West Coast beaches, abnormally extensive outbreaks of red tide, and changes in the plankton composition of the water. Dr Shannon said the South African oceanographic anomaly was indicative of an environmental irregularity on a global rather than a local scale in that it more or less coincided with that detected in the Pacific last year. [Text] [Cape Town THE CAPE TIMES in English 15 Apr 83 p 13]

DROUGHT STATISTICS--Water sufficient only for another 164 days; that is the stark message to all consumers in the Umgeni Water Board area. It means all supplies will be exhausted by September 30 unless the public can save more

or the rains come. Yet despite the urgency of the situation, people are continuing to ignore the water restrictions. The Daily News will from now on publish a daily chart detailing the extent of the crisis. It is information nobody should ignore. [Text] [Durban THE DAILY NEWS in English 19 Apr 83 p 12]

WATER HOLE DRIES UP--Windhoek--The natural water hole at Okaukuejo in the Etosha game reserve, has dried up for the first time--another victim of the worst drought in SWA this century.--Sapa. [Text] [Johannesburg THE CITIZEN in English 30 Apr 83 p 11]

DROUGHT HITS TRACTOR INDUSTRY--BECAUSE of the countrywide drought which is affecting all sectors of agriculture, the outlook for the tractor industry in 1983 is not at all good, says Mr Keith Berning, Ford's tractor operations manager. "We are forecasting a total tractor market of 8 000 units--the lowest on record," he said. "The diminished tractor market will continue to be characterised by intense competition as the 12 manufacturers compete for a share of the available business. Careful management and controls will be required by the industry through to 1984, when the market should pick up slightly as a result of improved agricultural conditions." Mr Berning said that in a fiercely contested March market, Ford tractors retained their leadership position with sales of 210 units for 31.5 percent of the market. Ford was also the year-to-date market leader, having captured 26.8 percent of the industry. The latest sales figures revealed that March sales of 667 units were 11.7 percent down on the February sales of 755 units. Industry sales year-to-date March totalled 1 876 units, compared to 2 875 units sold in the same period last year. [Text] [Johannesburg THE CITIZEN in English 27 Apr 83 p 22]

NATAL WATER RATIONING--The new water rationing system in the Durban and Pietermaritzburg metropolitan areas comes into effect from today. Homeowners in the Durban area are allowed an allocation of 400 liters a day, while flatdwellers are permitted to use just 200 liters. In Pietermaritzburg homeowners are permitted 400 liters a day, and flat residents 300 liters. The new measures were decided on by the Natal Contingent Committee, and from 1 June there will be a fine of 10 rand for every kiloliter used over the quota. Hospitals and welfare organizations will not be affected by the new measures. [Text] [MB010918 Johannesburg Domestic Service in English 0900 GMT 1 May 83]

MAIZE EXPORTS TO TAIWAN--Taipei--Taiwan has agreed to exempt South Africa from an obligation to supply it with a total of 760 000 tons of maize, a Taiwan Board of trade spokesman said. The maize was due to be delivered under a three year agreement for South Africa to supply Taiwan with 600 000 tons of maize a year, for three years, from July 1982. He said South African and Taiwanese officials agreed the 160 000 tones outstanding for the current fiscal year ending June nor any maize during the following fiscal year. South African maize production has been severely hit by drought. [Text] [Cape Town THE CAPE TIMES in English 15 Apr 83 p 22]

HAILSTORM DESTROYS COTTON CROP IN MBOVANE AREA

Mbabane THE TIMES OF SWAZILAND in English 21 Apr 83 p 15

[Article by Mandla Magagula]

[Text] A COTTON farmer near Sidvokodvo has lost an estimated E40 000 crop through a hailstorm.

Mr Michael Tomlinson was hit by the hailstorm which affected a number of farmers in the Mbovane area.

Mr Tomlinson was the hardest hit.

His farm manager, Mr Desmond Groening, said: "The hailstorm could not have come at a worse time. In view of the current world recession, the hailstorm will force us to lay off about 120 of our workers. As it is, we will have no winter jobs."

Mr Groening said the storm which hit the farm was accompanied by a strong gale. After the storm, he went out to check on the fields—only to find that one of them had been completely wiped out.

The storm destroyed about 40 acres which were under cotton, Mr Groening said.

Normally, Mr Groening said, the farm management planted potatoes after the cotton had been harvested.

"But because of the drought, we will not plant any potatoes this winter," said Mr Groening. "This has forced us to cancel our contract with Simba Chips in Durban and Johannesburg. We will only revive the contract next year, that is provided the drought is broken."

Mr Tomlinson said most of the farmers in the area had been affected by the storm.

"It's not just my farm that was affected. Most of my neighbours were also hit," he said. "We will just have to wait until next season to see how we can recover from the losses."

The losses include investment through irrigation and inputs.

The water is drawn from the Great Usutu River which is about 500 metres from the farm house.

However, because of the drought, the river's level has dropped considerably.

This is one of the reasons why there will be no winter potato crop.

This is the second time in just over a year that the Mbovane area has been hit by a severe hailstorm. Last year, the farmers of the area were hit by a hailstorm which, however, was not as destructive as last week's.

CSO: 5000/165

DROUGHT CATTLE LOSSES PROJECTED

Mbabane THE TIMES OF SWAZILAND in English 12 Apr 83 pp 1, 16

[Article by Mandla Magagula]

[Text] AT LEAST 60 000 cattle may die this winter because of the drought.

This grim warning has come from an official of the livestock unit of the Ministry of Agriculture and Cooperative.

"There has been a steady rise in the number of animals lost through drought in the past two years," he told The Times yesterday.

"There is reason to believe that we might lose more than 60 000 this coming winter."

The worst affected will be the Swazi nation land livestock farmers, who lack modern facilities.

But an official at Swaziland Irrigation Scheme (Inyonyami) said the problem was just as serious on the big commercial ranches.

"The position remains very serious for both sugar and cattle production," he said.

The general manager, Mr. Dave Clark, was not immediately available to comment.

Warning

More than 56 000 cattle were killed by drought last year. The figure for the previous year was more than 42 000.

Director of Agriculture, Mr Victor Phungwayo, has repeated his warning that there will be no yields on some of the Swazi nation land areas.

"As I mentioned before, we are faced with hunger this year in the rural areas," Mr Phungwayo said. "As I tour the rural areas, I find that most places will not have a shred of grain."

Minister of Agriculture, Mr A.K. Hlophe, recently forecast a 70 per cent drop in the maize crop this year.

Mr Hlophe told Parliament the crop would drop to 30,000 tons compared to last year's figure of 100,000 tons.

Government has already asked for food aid from the World Food Programme and the European Economic Community for drought victims this year.

CSO: 5000/165

DROUGHT BLAMED FOR PROJECTED ELECTRICITY BOARD LOSSES

Mbabane THE TIMES OF SWAZILAND in English 13 Apr 83 pp 1, 16

[Article by Mandla Magagula]

[Text] SWAZILAND Electricity Board may lose E2 million this year because of the drought.

This is was confirmed by the board's deputy manager, Mr. Robert Friede, yesterday.

He told The Times: "If the situation does not improve--and there is no likelihood of that according to my projections--we will be selling less power units, while importing more from the Electricity Supply Commission of South Africa.

"This means the revenue available to repay loans and undertake construction work will be cut by at least the same amount."

Mr. Friede said the company had been increasingly hit by drought over the past two years. This had been matched by declining sales of power to their major customers, especially commercial farmers, some of whom had cut their requirements for irrigation completely.

"Because farmers have no water to pump for irrigation, they have been buying less and less power," Mr. Friede said.

Due to farming losses, we may sell about 10 million units less than otherwise would be the case this coming year. At the same time, because we do not have enough water to run the Edwaleni Power Station, we will have to import at least 45 million units more of electricity from ESCOM. If the drought continues we will have to import 340 million units of electricity. Last year we imported 330 million units."

Retrenchments

Mr. Friede pointed out that because Edwaleni Power Station did not have enough water, they had put most of their staff on maintenance work.

He said SEB did not envisage any retrenchments at this stage. But he warned that "if the drought carries on, we may have to readjust the rates sooner than otherwise would be the case if we had plenty of water."

Mr. Friede said the last rate increases came into force last December 1.

He said the huge loss would force SEB to reduce its construction work.

"Because nearly all the money we get for capital projects is in the form of loans which we have to repay, coupled with the fact that we are selling less while importing more, we will have to cut our construction work to a minimum."

Just over four years ago, Mr. Friede said, Edwaleni Power Station was producing an average of 130 million units per year. This figure was now 60 million units because of the continuing drought.

He disclosed that the Ezulwini Power Station would start operating partially in December. That was the scheduled date, he said, for the first of two machines to start operations. Mr. Friede said the second machine would be commissioned three months later.

"But this is not going to improve the declining situation, unless the drought is broken."

Mr. Friede conceded that their system was inadequate to cope with the supply demand. This was the cause of embarrassing power cuts.

"I would rather not discuss that one any further," said Mr. Friede. "Nobody wants to discuss the faults of his child."

He hoped that when the Ezulwini Power Station was commissioned this problem would be reduced.

Mr. Friede admitted that the Ministry of Works, Power and Communications had warned SEB well in advance that the drought was coming. However, because of financial constraints, there was nothing SEB could do to prepare for the drought.

"Like everybody else, we have been hit by the recession and we are short of funds to build more reservoirs. The farmers, I'm sure, have told you that."

CSO: 5000/165

VILLAGERS SMUGGLE WATER FROM SOUTH AFRICA

Mbabane THE TIMES OF SWAZILAND in English 22 Apr 83 pp 1, 24

[Text]

DESPERATE villagers at Lavumisa are smuggling water from South Africa, it was revealed yesterday.

Some of them are buying it in trucks from across the border and transporting it to their homes.

"The situation is such that people are literally begging for water," a spokesman for the Rural Water Board said.

The spokesman said people in Lavumisa were buying water from South Africa to keep themselves alive.

"But the South Africans themselves hardly have any left, so that the amount they can release is very meagre," he said. The result is that those on the outskirts of Lavumisa are gradually resorting to smuggling.

"Although no one has been caught, it has come to our attention that water is being smuggled there."

Situation

He told The Times that ever since the Ngwavuma River was declared totally dry, the residents at Lavumisa had turned for relief to the Pongola River in South Africa.

He said: "When the Pongola also began to run down its flow, the people were suddenly forced to buy it from the border, in big containers."

"The situation in South

Africa has since deteriorated although they still have a bit left. As a result they cut down the amount they could sell to the local people at Lavumisa.

"Right now, it is only those in the town area that have access to the water. Those in the rural outskirts have to travel long distances to other areas to get some water. If not, they go smuggling."

The spokesman said there was one pump quite a distance from the centre of Lavumisa, which had been installed by the RWB.

But, he said, even that had met problems because the water was not suitable for consumption.

He said: "The general region of Lavumisa has salty ground and the water from there is hardly suitable for drinking."

He said the RWB had since planned to instal two borehole pumps in an area not too far away from Lavumisa.

"Once these are in operation, we shall have no alternative but to transport water all the way to Lavumisa using trucks. It will certainly be expensive but it would be

even more expensive to pipe the water there from the distance," he said.

One of the major problems facing the work of the RWB in the provision of borehole pumps and protected reservoirs in rural areas in the South is the slow pace with which the resettlement programme was being carried out.

Bleak

He said: "I know that they are working very hard to see this programme working out. But, honestly speaking for our purposes it is not fair enough."

"It is very expensive to set up these boreholes and pumps. To make a borehole costs about E1,500 and a pump costs about E2,000. In view of the scattered homesteads, it is even more expensive, because each pump and borehole does not serve the number of people it would otherwise serve if they were collected together."

"Another problem is that we are finding it difficult to provide these schemes in some areas because we may do that and find that the people are subsequently moved and resettled. That would be a waste."

"Some of the areas are being co-operative with government but many are still lagging behind."

The spokesman said nevertheless the general outlook of the RWB's project in Shad elweni is not as bleak as in other parts of the country.

He said: "We so far have managed to drill boreholes which continue to produce reasonable amounts of water for the people. But one inevitable fact is that the situation could get critical if there are no rains next summer."

Another development,

residents at Nkwilini and Mahwalala areas in Mthabane have got almost no water left in their sources. The springs that are available are drying up and some people have resorted to taking water from towns and the neighbouring areas.

They blamed it all yesterday on what they call the government's delay in the resettlement programme designed for the area.

Under this programme, government is supposed to provide proper roads, water and electricity facilities.

A spokesman for RWB said once proper water facilities were established there, the area would be put under the responsibility of the Water and Sewerage Board.

"But right now WSB refuses to intervene as they say it is out of boundaries and we cannot do it either because we think it is in an urban area," he said.

The spokesman said there were 10 sources which were installed and protected when the cholera outbreak took place. "Even then we were given funds, by the Ministry of Health as an emergency relief aid, to construct them. There are presently fewer than five left and they are also drying up everyday."

A resident told a Times team who went to visit the area yesterday that the water crisis there was so bad that people actually fight over water.

She said: "If you want to get water here, you have to wake up at 12 midnight and place your container under the tap, so that it might fill up at about 6 a.m."

"When you come here in the morning you will find a queue as long as 100 metres of people waiting with their containers."

MUGABE DISCUSSES DROUGHT AID PLANS

Harare THE HERALD in English 23 Apr 83 p 1

/Text/ Bulawayo--The Government will investigate the possibility of moving cattle from drought affected areas of Masvingo to parts of Mashonaland East where grazing was plentiful, the Prime Minister, Cde Mugabe, told a large crowd at Chibi yesterday.

As part of measures to blunt the effects of severe drought in the area, the Prime Minister called for the formation of co-operatives by communal people and promised Government loans to any organised bodies.

Although the drought was a national phenomenon, its severity in Masvingo dictated that additional relief aid be given to all the needy, Cde Mugabe said.

On the threat of dissidents in Matabeleland, the Prime Minister said although there were still small pockets of dissidents in parts of the region, Matabeleland was now poised for a return to peace.

The Prime Minister flew to Chibi with a party of ministers and MPs to address rallies at Chibi and Sarahuru in Mwenezi to reassure local people of the Government's determination to come to their rescue.

The visit was in answer to an appeal by the people who have been hit by two seasons of drought that have killed tens of thousands of cattle and devastated food reserves.

Cde Mugabe said he had seen for himself the drought conditions and the degree of its severity while flying over the district.

He had seen cattle stuck in mud, stark evidence of a critical shortage of water. The Prime Minister said he would take the matter up with the Minister of Water Resources and Development, Cde Cephas Msipa to ensure that drilling rigs were sent to Chibi.

On the request by the local population for an additional hospital, Cde Mugabe promised to discuss the matter with the Minister of Health, Cde Oliver Muniyadzi.

Dealing with the loss of cattle and the lack of food, Cde Mugabe said the Government recognised the seriousness of the situation.

The death of cattle was a fundamental blow to the people's wealth and their means of survival. If cattle died in very large numbers that would lead to a national shortage of beef, the Prime Minister said.

"I want the Government to investigate the possibility of sending your cattle to places like Marondera and elsewhere where grazing is plentiful," Cde Mugabe said.

There would be problems of transport but no effort would be spared to ensure that those cattle still in a condition to be saved were moved.

CSO: 5000/174

ESTIMATED COST OF DROUGHT LOSSES REPORTED

Harare THE FINANCIAL GAZETTE in English 8 Apr 83 pp 1, 12

/Text/

THE extremely grave consequences of the present disastrous drought on all aspects of Zimbabwe's economy, from the cost of essential famine relief to loss of foreign currency, are now becoming apparent. One estimate is that it could cost the country more than \$500 million this year alone.

All food crops as well as cattle have been seriously affected by the continued heat, lack of rain and shortage of water resources — likely to dry up even more in the rainless winter months ahead.

The existing maize stock-pile, which Zimbabwe is fortunate to have, stands now at about 1,1 million tonnes. But with maize crops this year being wiped out in some areas and only poor yields expected from many others, Agritex reports that the outlook "is grim".

It is now estimated that the total maize intake from crops planted this season is expected to be only about 600 000 tonnes, a drop of 50% over last year's total intake of 1,3 million tonnes which, itself, was not considered a very good harvest.

This estimated intake, added to the stockpile, would give Zimbabwe a total of 1,7 million tonnes when the present surviving crops are in. But as 300 000 tonnes are ear-marked to fulfil export obligations already undertaken and agreed, it will leave the country with an estimated total of 1,4 million tonnes of maize (the staple food) to carry the country through until the next harvest intake in mid-1984, about 12 months distant.

The Commercial Farmers Union is known to be "extremely worried" about the agricultural situation.

Zimbabwe's annual maize consumption bought through the formal maize-milling sector is slightly more than a million tonnes a year and home-grown maize, usually produced by rural growers for their own needs, is believed to vary between 500 000 tonnes up to a million tonnes in a good year.

This means that Zimbabwe will need at least 1 500 000 tonnes of maize during the next 12 months to meet local requirements. But as there will be almost no maize produced by the informal rural sector due to drought conditions, the call on existing maize supplies could rise to as much as two million tonnes. This could lead to a possible shortfall in total stocks.

This is especially so as all other food crops have been hit by the drought. Wheat will be in short supply even allowing for imports and vegetable crops will be scarce due to lack of water.

Drought relief schemes, already under way with others planned have already cost more than \$16 million and some spokesmen forecast they could cost up to \$500 million this year.

In reply to questions put by *The Gazette* recently, the Director of Social Services, Mr J G Mutambikwa, said that as at February 1 the drought relief scheme which had benefited more than three million people had cost \$16 555 000 in food commodities given to hard-hit families each month in the form of maize, groundnuts, beans and salt.

"This scheme was originally estimated to last to the end of April this year, a period in Zimbabwe when crops are usually ready to provide more food to communal farmers. However, in view of the present climatic conditions which foretell repeated drought conditions, it is more than likely that assistance will continue to the end of April 1984 when, hopefully, we expect a new crop," he said.

"It goes without saying that for this massive work to continue, funds will have to be found and accordingly Parliament will be approached for more funding."

The serious situation was underlined by the Deputy Prime Minister, Mr Simon Muzenda, recently and reported in the *Cattle World* (*Murimi Umlimi*) magazine this month.

Mr Muzenda said this year's drought, "probably the worst ever", would undoubtedly cause a serious down-turn in economic activity.

Speaking at a National Farmers Association field day at Seke in February he said the situation from what he had seen appeared to be "absolutely desperate". He believed that about three-quarters of the crops in some areas were a complete write-off, the national cattle herd had been depleted and he added: "When all the statistics throughout the country have been collated, I shudder to think what the outcome will be."

Mr Muzenda urged everyone to do their utmost to conserve water, among other measures.

"The writing is on the wall. Act now," he was reported as saying.

In the same issue of the magazine Mr Gary Magadzire, president of the Zimbabwe National Farmers Union, outlined various forms of drought relief needed. These were estimated to cost more than \$500 million to implement.

The schemes his union called for were designed to relieve more than 6 500 000 people from "impending starvation" and to save 1 600 000 head of cattle from unnatural and untimely deaths. They included food, crop, water and financial assistance schemes.

Mr Magadzire said that following an intensive survey throughout eight provinces in Zimbabwe, the findings of the ZNFU were "frightfully disastrous" and called for swift and prompt decisions.

"Certainly it is going to be extremely costly to the national exchequer and Government. But we view the expense as an investment worthwhile to sustain the agricultural industry," the magazine reported him as saying.

He concluded by saying that droughts in this region were a "permanent feature". It was therefore necessary to tailor agricultural policies in order to take into account the vulnerability of farmers.

"It should be part of our agricultural policy that the farmer is insured against losses beyond his control. Without such an insurance very few farmers will take bold steps to programme for huge productivity lest they face insolvency should the season prove bad."

RURAL AFFORESTATION PROJECT PLANNED

Harare THE HERALD in English 26 Apr 83 p 5

/Text/ The Ministry of Natural Resources and Tourism is to launch a \$10 million rural afforestation project, subject to Cabinet approval, says the secretary in the ministry, Dr Dexter Chavunduka.

Addressing a meeting of Intensive Conservation Area Committees, Natural Resources sub-committees and District Council Natural Resources committees from Southern Mashonaland in Chitungwiza yesterday, he said:

"This project will include the establishment of more nurseries, training and extension, research and studies of species and land preparation. But this will be subject to approval by the Cabinet."

Dr Chavunduka said an evaluation and monitoring unit would be set up as would a support fund for the infrastructure, such as fencing equipment and acquisition of suitable land for re-afforestation.

The project would be monitored by an inter-ministerial committee of the Ministries of Industry and Energy Development, Agriculture, Local Government and Town Planning, and Community Development and Women's Affairs but with the Ministry of Natural Resources and Tourism taking full responsibility.

The Government would have to approve the loan from the International Monetary Fund and its own contribution to the scheme.

Dr Chavunduka said people should be made aware of the value of conservation and extension of the natural resources. "The drought has forced some people to cultivate in vleis and stream banks and this has caused excessive exploitation of the available natural resources. Therefore there is a need to educate the people otherwise the situation will be aggravated."

The drought had forced many farmers to destock, but an emergency programme to save more livestock would be implemented because some people refused to sell.

He understood people would face problems in restocking since cattle would cost more than the selling price now.

CSO: 5000/174

INTERNATIONAL SYMPOSIUM ON BALTIC SEA POLLUTION

Riga SOVETSKAYA LATVIYA in Russian 17 Mar 83 p 1

/Unsigned Article: "Pure Water for the Baltic"/

/Text/ On 16 March an international symposium on the "Ecological Aspects of Protecting the Baltic Sea from Pollution" opened in Riga. More than 100 specialists from the GDR, the Polish People's Republic, Denmark, Finland, Sweden, the FRG and the Soviet Union are participating in the symposium. G.P. Andrushtaytis, director of the Latvian SSR Academy of Sciences Institute of Biology, talked with a LATINFORM correspondent about the basic directions in the work of the scientific forum.

The Baltic Sea Protection Convention, which was ratified in our country, among others, has increased the amount of work which scholars are devoting to the study of the Baltic, and it has prompted people to take important practical steps for the protection of the water area. The necessity for this kind of international document was dictated by concern over the fate of a major aquatic region; located on the shores of this body of water are countries which produce 15 percent of the world's entire industrial output. The natural features of this almost closed body of water, which is connected with the ocean only by narrow Danish straits, do not contribute to its rapid purification. For this reason the problem of protecting the Baltic remains acute, despite the efforts which are being undertaken by various countries to preserve its ecological balance. In the 10 months since the adoption of the convention the experience of the participating countries which have conducted scientific investigations in their efforts to study changes in the Baltic's ecological system under the influence of man's activities, has been collected. Biologists, hydrologists, medical scholars and mathematicians who are engaged in the study and evaluation of the marine environment have gathered to discuss this experience.

The development of a system--which is to be finished next year--to monitor the "health" of the aquatic region, can be considered to be one of the general achievements. The system is conceived of as a set of scientific stations located in international and territorial waters. On a day determined for each of the countries on the Baltic, the courts in these countries will take from the station areas samples of water, plankton, and algae for various analyses: they will measure the temperature and speed of the current. The data, which will be processed on a computer, will make it possible to obtain a complete picture of the state of the sea.

Many of the reports presented at the symposium were prepared by Latvian scientists. They are studying in a comprehensive manner questions related to the mechanism by which various substances influence the flora and fauna of the sea: they are studying the aquatic environment's self-purification processes, and they are determining which of the very simple organisms inhabiting the water environment can be used as living indicators of the sea's state. Within the framework of the all-union program entitled "Baltika" (The Baltic), which has been developed through the efforts of dozens of institutes in our country, including the Institute of Biology of the Latvian SSR Academy of Sciences, a mathematical and ecological model of the Gulf of Riga is being created: with this model it will be possible not only to predict the processes taking place in the sea, but also to control them. The construction of treatment installations is being developed on a broad scale throughout the republic. Many fishing collectives and enterprises have already built installations of this kind, and they serve as an important contribution made by Soviet Latvia to the general problem of preserving the "health" of the Baltic.

8543

CSO: 5000/82

PROBLEMS WITH DAM CONNECTING KARABOGAZ WITH CASPIAN

Moscow PRAVDA in Russian 21 Feb 83 p 7

[Translation of an article by correspondent A. Grachev: "Karabogaz Gulf: Three Years Later"]

[Text] I stood here in this same spot at the end of February 1980 and watched as workers closed the throat of the strait connecting the gulf of Karabogaz and the Caspian Sea with a fixed dam. The work proceeded with great enthusiasm and obvious emotion. You see they were not merely damming a small river but a sea strait.

The squamaine flow confined by the concrete wall thrashed against the concrete, seethed and, after playing itself out, became tranquil. The "Black Trap", which the gulf of Karabogaz had become, was deprived of its "food" for the first time in hundreds of years. Certainly the men who had tamed the watery element felt a sense of their own power in these moments. The dam builders' faces shone with the joy of victory.

Now, three years later, I stood again at the gulf of Karabogaz. This time, the anxiety of Turkmen scientists had brought me here. It turned out that their alarm was well justified. A melancholy picture met the eyes; a white desert of salt stretched as far as the eye could see. And where was the strait?

The explanations given were quite alarming!

Here we must make a journey into the past.

What, in general, is the gulf of Karabogaz? It is a unique chemical storehouse which nature created over many centuries and which is very valuable for the national economy. Water entering the gulf from the Caspian Sea was evaporated intensely. You see the surface of the gulf covers 160 km in length and 140 km in width and its depth ranges from two to three meters and it becomes a vast "brazier" under the intense rays of the southern sun. The water evaporated and was transformed into brine and some of the salt settled on the bottom. As a result, the gulf of Karabogaz became one of the world's greatest deposits of mineral raw material.

Exploitation of the gulf's riches began in 1923. Later, the "Karabogaz-sulfate" trust was created and it grew, in time, into a major industrial association. Bekdash, a settlement of chemists with almost 10,000 persons, sprang up as a result of the need to develop exploitation of the gulf's wealth.

What exactly is extracted here and what is the value of this production?

The "Karabogaz-sulfate" association, which extracts the underground brines, is the country's main supplier of sodium sulfate which is required for production of cut-glass, high quality glass and paper for the textile, oil-refining and chemical industries. Many other valuable chemical products are turned out here. These products include, for example, bischofite which is the starting material for production of defoliants, without which it is impossible to harvest the "white gold" by machinery in cotton-growing republics. It is used in power engineering, light industry (textile production), the construction industry (making wood fire-resistant, producing construction materials) and is used in preparing drilling muds and as raw material in the production of metallic magnesium and hydrochloric acid. Epsomite is equally valuable. It is used to protect main pipelines from corrosion, as a fertilizer and as a filler for hard leather (in welted boots), to produce air-hardening cements and it is also used in metallurgy and medicine. The association plans to produce potassium sulfate, hydrochloric acid, magnesium oxide, scarce calcinated soda and other products. The gulf of Karabogaz is just such a rich "bouquet".

However, we may lose this treasure if we do not take timely measures.

You see the Karabogaz resources, a surface solution highly saturated by salts, underground brines and solid salt deposits, make up a unified, interconnected natural complex. It is replenished by the influx of water into the gulf from the Caspian Sea. But... they closed off the gulf three years ago.

The idea of cutting off the gulf of Karabogaz was advanced by some scientists in connection with the drop in the level of the Caspian Sea in the last 10 years. The rivers flowing into the Caspian began to bring less water into it. Meanwhile evaporation from the sea's surface proceeded as usual as part of the natural order of things. Evaporation was especially intense in the shallows in the north-eastern "corner" and, as we said already, in the gulf of Karabogaz which "swallowed" nearly five cubic kilometers of sea water each year.

There was another factor which favored the project; fish were carried into the gulf of Karabogaz with the sea water. Of course, they could not survive in the gulf for the water becomes a highly saturated salt solution after evaporation by the sun. The fish died quickly in this environment. Incidentally, this is how the gulf received the name "The Black Trap". Actually, not so many fish were washed into the gulf. And they were not wasted. This is shown by the writings of Lieutenant Zherebtsov who visited here and wrote as early as 1847 that the fish were used as food. Birds ate the dead fish.

The authors of the project considered the volume of water involved. Five cubic kilometers is no small figure! It is true that, if you average the figure for the entire area of the sea, the rise in the water level is only 1.2 centimeters. There was a time, however, when many specialists thought that this centimeter was needed desperately. However, since 1978, two years before the gulf was dammed, the level of the Caspian Sea began to rise. Now this situation is causing some concern here and there; the water is flooding port installations, docks and shoreline settlements and is advancing across the dried-out sea bottom.

This is no surprise to many scientists. They pointed out that the Caspian Sea grows shallow and deepens in sequence over the course of centuries. They explain this in many ways. Some specialists think that these fluctuations are caused by geological processes, by the rise and fall of the sea bottom in the southern part of the Caspian Sea. Others associate these variations with climatic changes being reflected, finally, by the water volume coming from the rivers in the north, especially the Volga.

Defenders of the gulf have indicated, also, that, in their opinion, the gulf of Karabogaz benefits the Caspian Sea, collecting some of the salt water from it and desalinating the sea water somewhat. They pointed out that the fact that the gulf was a constant source of replenishment of the deposits of raw material must not be forgotten.

What is the present situation in regard to the gulf of Karabogaz? The gulf, turning into a lake, is rapidly growing shallower. Over the three years, the water area dropped from 18,000 square kilometers to 6,000 square kilometers. The depth dropped from 2 or 3 meters to $\frac{1}{2}$ meter. The composition of the raw material has changed greatly; the quality of production has deteriorated while production costs and production time have increased. If this continues, there will have to be a complete shutdown and the entire diverse and multi-ton production of the "Karabogaz-sulfate" association will have to be cancelled. Drying up of the gulf is hurting the ecological situation in the region, is polluting the environment, contaminating crops and salinizing soils. Birds now bypass this dead white spot.

The Turkmen scientists and specialists grew uneasy even within a year after the gulf of Karabogaz was sealed off from the Caspian. They proposed construction of a sluice in the dam in order to feed water into the gulf on a regular basis. There then began, as is often the case, conferences and agreements. A commission to study the Karabogaz problem was created. This commission has met twice in extended session, once in Ashkabad and once in Moscow.

It is true that not everyone in the USSR Ministry of Water Resources will admit that cutting off the gulf of Karabogaz was a mistake. They insist upon further appraisal by experts. However, most specialists (with whom the USSR State Commission on Science and Technology agree) are convinced that the gulf of Karabogaz must be helped quickly by supplying it with water, as it is burning with thirst. This calls for design and construction of a sluice, for the time being. This will gain time.

This project was assigned to the USSR Ministry of Water Resources "Volgogradstroy". Two months later the Ministry of Water Resources refused to prepare the draft, saying that this should be done by the USSR Ministry of the Chemical Industry. But the Ministry of the Chemical Industry objects to this. They say that, since the Ministry of Water Resources undertook construction of the dam, at its insistence and according to the design of its organizations, they should be the ones to repair the damage now. However, the water-transport workers are holding their ground. Since the chemists need the sluice, let them initiate the project and pay for drawing the plans, says Deputy Minister B. Shtepa. The end of this inter-departmental quarrel is nowhere in sight and this is no trivial matter. There still has been no initiator nor contractor. Month follows month. The project that was started rashly several years ago can still be corrected in due course. However, if the gulf of Karabogaz doesn't get water soon, it will be too late.

Chemists of the "Karabogaz-sulfate" association and other Bekdash residents are especially worried about the fate of this natural treasure-house. It provides their homes and work. Regrettably, their anxieties still are not shared by the two quarreling ministries. Previously, when the question concerning the cutting off of the gulf of Karabogaz was being settled, they also paid no attention to the opinions of specialists who pointed out the close connection between the underground brines, the principal raw material of the association, and the natural regime of the gulf of Karabogaz and who objected to the installation of a fixed dam. Now, when it is obviously necessary to release water into the gulf, for which a sluice is needed, they are still in no hurry.

The history of the construction of Karabogaz dam suggests still another thought. It points out the necessity, when carrying out large-scale projects involving interference with nature, of considering the matter not just seven times but seven times seventy times before "taking the final step". Now the "strokes of the knife", the construction of the cofferdam, has come full circle. Now money is needed to correct the error. But who has considered the cost of the loss of raw material or of the rise in production costs at "Karabogaz-sulfate"?

We obviously must be wise and circumspect in our dealings with nature.

2791
CSO: 5000/89

RSFSR ENVIRONMENTAL COMMISSION CONSIDERS PROTECTION OF SMALL RIVERS

Moscow SOVETSKAYA ROSSIYA in Russian 1 Apr 83 p 4

[Article]

[Text] The Commission for Preservation of the Environment and Rational Use of Natural Resources of the Presidium of the RSFSR Council of Ministers examined the question of the course of fulfillment of the resolution of the RSFSR Council of Ministers "On intensification of protection of small rivers of the RSFSR against contamination, obstruction and depletion and on the rational use of their water resources," adopted in January 1981. Since that time much work has been done. The Ministry of Land Reclamation and Water Resources organized and completely provided the Small Rivers Service with personnel. A start was made on the compilation of plans for their protection, the planning of water-conservation zones and the transfer of coastal lands into nature. A system of agro-technological, forest reclamation, hydraulic engineering, and other anti-erosion measures is being implemented, and trees are being planted along the banks.

Much attention is being given to small river preservation by the All-Russian Society of Natural Conservation, the USSR Geographic Society and also permanent committees on problems of the rivers Desna, Don and Severniy Donets, the Volga, Ural, Ob', Severnaya Dvina and a number of others. Public committees are conducting much propaganda work and the local press, radio and television are being used widely.

At a session of the committee the task was set of widely attracting the public and the population to the improvement of rivers, and in that light high ratings have been received by the initiative of the Samovetsk, Kaverino and Shmarovsk rural soviets of Voronezh, Lipetsk and Tambov oblasts, of which the newspaper SOVETSKAYA ROSSIYA has held. It found wide support in other krais and oblasts of the RSFSR.

All this gives its results. Many rivers are becoming cleaner, full and richer in fish.

The commission also noted shortcomings in the fulfillment of the resolution of the RSFSR government on small rivers. The Ministry of Land Reclamation and Water Resources, Forest Industry and Housing and Municipal Services and a number of other ministries and departments, many councils of ministers of autonomous republics, krayispolkoms and oblispolkoms have not developed more unremitting and purposeful work in intensification of the preservation of small rivers. And the Ivanovo, Kaluga, Kaliningrad, Moscow, Novgorod, Ryazan' and Tyumen' oblispolkoms, having made their own decisions on this

question, have not even brought them to all the enterprises, organizations, kolkhozes and sovkhoses. At many places they also do not know the positions on water preservation bands (zones).

The construction of water preservation structures still lags behind the rates of development of industry, cities and settlements behind the growth of capacities of agricultural enterprises. More common are cases of plowing the soil, the disposition of summer camps of cattle and milking areas, the unsystematic cutting of the forest and shrubbery along the banks, near the water. Great harm is done to rivers by motor-boats and other craft.

At a session of the commission the leaders of agricultural organizations were subjected to serious criticism. How is it possible to disconnect such facts, for example, as organic fertilizers, instead of going into the soil and work on the yield, in some kolkhozes and sovkhoses are accumulated near animal husbandry complexes, and in the spring waters carry them off into the rivers, contaminating them. Due to poorly managed storage, mineral fertilizers and toxic chemicals are washed away at times.

In the adapted resolution the commission required ministries and departments to eliminate the noted shortcomings, to assure fulfillment by all enterprises and organizations of measures directed toward restoration of the purity and high water level of small rivers.

2174

CSO: 5000/90

PLANS TO CLEAN UP POLLUTED WATERS OF INDUSTRIAL AREAS OUTLINED

Moscow PRAVDA in Russian 28 Mar 83 p 2

/Article: "So That the Rivers Will Be Clean"/

/Text/ The USSR Ministry of Nonferrous Metallurgy has considered the article "An Unpaid Debt" (PRAVDA, 20 Jan). The response by P. Lonako, minister of nonferrous metallurgy, stated that enterprises of the sector have polluted the Tury and Chusovoy rivers.

The enterprises have developed the following measures in coordination with the basin administrations of USSR Minvodkhoz:

At the Kirovgrad copper plant, activation in 1983-1986 of a circulating water supply for chemical production, and treatment plants at the village of Karpushikha; reconstruction of household sewage works at the settlement of Levikha and a neutralization plant at the former Belorechensk mine; divert the Kalatinka river away from a cinder tailing dump;

In 1983-1987 activate a plant to clean arsenic out of industrial wastes from sulfuric acid production at the Krasnoural'sk copper smelting plant, and a neutralization station at the mine imeni III International; organization of collection and pumping of household sewage from the mine site to cleaning plants in Krasnoural'sk; and renovation of these installations and complete purification of the plant's sewage in the basins of the Sor'i, Ayvy and Saldy rivers with higher aquatic vegetation.

To reduce discharge of pollutant sewage, the Middle Ural copper smelting plant will put a circulating water supply into operation in 1984 at the dressing plant and xanthogenate division.

Chief engineer of the all-union production association "Soyuzmetallurgprom" A. Glazov also informs the editors that the USSR Ministry of Ferrous Metallurgy has reviewed the article. The capital construction plan calls for a treatment installation to be built at the sheet mills for hot-rolled products at the old part of the plant in 1984-1985, upon which the Verkh-Isetskii metallurgical plant will cease discharging untreated industrial effluent into the Isset' river.

As M. Troitskiy, deputy minister of chemical and petroleum machine building, has reported, the ministry has allocated capital investments to put the treatment installation at the Urals compressor plant into operation in 1983.

Deputy minister of the electrical engineering industry N. Pronin has informed the editors that a facility will be built in 1984-1985 at the "Uralkabel" plant whose start-up complex will include industrial sewage treatment plants in 1984. The enterprise's management has been directed to work out measures for improved treatment of industrial effluent at the existing neutralizing station.

It is reported in response to the chief of the design and capital construction administration of the Ministry of Heavy and Transport Machine Building, N. Khimina, that Kintyazhmash has approved a schedule of measures to completely stop discharge of untreated sewage into the rivers and reservoirs of the Arctic basin. In particular, it provides for entry into operation during the current Five-Year Plan of treatment works for the eastern industrial area of Utalmashzavod, a circulating water supply system in its new heat-treating department, and a treatment plant and circulating water supply system at the Bulanash machine building plant.

9875

CSO: 5000/93

UTILIZATION OF LOW-WASTE TECHNOLOGY FOR ECOLOGICAL BENEFIT

Moscow SOVETSKAYA ROSSIYA in Russian 6 Jan 83 p 1

[Article by V. Sokolovskiy, deputy chairman of the USSR State Committee on Hydrometeorology and Environmental Control: "In Assistance to Nature"]

[Text] If you thoughtfully consider any technological network in modern industry in reverse (from finished products to the starting natural raw material), it is easy to see that wastes, in fairly large amounts, are formed in practically every operation. Mineral extraction in the country, for example, is accompanied by displacement of up to several billion tons of clay, kaolin, sand, stone and peat. Coal burning produces ash and slag, the annual quantity of which exceeds 100 million tons. Tens of millions of tons of sulfur compounds, oxides of nitrogen and other noxious substances are thrown out with waste gases from industrial enterprises into the atmosphere, reducing air quality and contaminating soils, surface waters and vegetation.

On one hand, industrial pollutions in the natural environment disturb natural processes, reduce the capacity for self-regeneration and reproduction, produce hazards to human health and damage the forests, agriculture and municipal services. On the other hand, we lose, with the wastes, many valuable components which could ensure output of additional production. All of this constitutes a serious problem calling for energetic and precise actions.

Additional funds which are invested in improving purification processes certainly make production of basic forms of production unprofitable, in some cases. Although all enterprises must now have purification installations, these are not always the most effective and most economically advisable solution to the problem. There is one solution: the development and introduction into production of so-called "low-waste" and "waste-free" processes in which the initial raw material is used in production without wastes. Furthermore. All industrial products have a period after which they become obsolescent and should be replaced by new, more efficient items. After this, they themselves become wastes, contaminating the environment. Thus, the discard of used galvanic batteries annually casts, into the biosphere, nearly one fifth of the zinc produced from natural resources.

In a word, we need a closed cycle: "resources--production--consumption--resources". Implementation of this idea has already begun in our country. This implementation

involves the introduction of low-waste production and improvement of means for collecting and reprocessing wastes and worn-out apparatus and equipment. The acceleration of this economically important transition depends greatly upon the USSR State Committee for Material and Technical Supply and the USSR State Planning Committee, industrial ministries and departments.

Wastes which are not needed in the sector in which they are produced may become, in another sector, raw material for many forms of production. Such a solution not only eliminates their harmful ecological effect but also produces considerable savings. A transition to low-waste technology and waste-free complexes of productions has been noticed in industry in recent years. This does not mean the end of introduction into operation of new and improvement of existing dust-, gas- and water-purification installations. Their role is being changed: they should now become more and more a part of the overall technological cycle so as to ensure the recovery of water, combustible and industrial gases during production.

The use of low-waste technological processes for production of some kinds of output is already being expanded steadily. For example, there are plans to achieve, by the end of the current Five-Year Plan, complete reprocessing of open-hearth slags and doubling reprocessing of steel-smelting slags, equalling half of the current yield. A high-capacity shop for reprocessing phosphogypsum, a waste formed in production of mineral fertilisers, is being placed in operation at the Voskresensk Industrial Association "Mimudobreniye".

Studies aimed at the development of unique water-recycling systems are being conducted at pulp and paper enterprises in the Lake Baykal region. On the whole, it is proposed to recycle up to 70 percent of the industrial water supply with 85-90 percent being recycled in some sectors.

At the same time, results achieved and quotas planned do not ensure the degree of environmental protection required. The inadequacies are due, in part, to departmental barriers, with sectors watching out for only their own interests. The press has already reported the start-up of the USSR Ministry of Ferrous Metallurgy Kostomuksha ore-enrichment combine in Karelia which will provide first-class iron-ore raw material to leading metallurgy enterprises. Operation of this combine at full capacity produces nearly 20 million tons of waste a year, from which may be produced, with the use of ordinary crushers, first-class rubble which is needed greatly in regions of the northwest and in central RSFSR.

However, the USSR Ministry of Ferrous Metallurgy is not interested in organizing rubble production. Meanwhile, other agencies such as "Roskolkhozstroyob'yedineniye" are investing tens of millions of rubles in production of the same kind of rubble in other locations in that same Karelian ASSR. At the same time, union and republic planning agencies prefer not to interfere and silently endure the situation.

In the construction materials industry, the USSR Ministry of Construction Materials Industry Angam gravel and cement combine converted completely to supplying raw material in the form of ash and slags from thermal electric power stations,

but the use of such raw material in this sector does not exceed 10 percent for the country as a whole. In contrast to ferrous metallurgy, the use of different kinds of slags, which make good raw material for highway construction and industrial construction, has remained virtually undeveloped over the course of the last 10 years. In the food and meat and dairy sectors of industry, enterprises which are situated basically along small rivers continue to discharge waste waters, thus injuring reservoirs because of the high content of organic substances in these waste waters. In particular, not one RSFSR Ministry of the Food Industry plant which produces starch from potatoes carries out the simple operation which would separate protein substances which are suitable for high-quality fodder.

Calculations show that the cost and specific capital investments in production of output from wastes are lower, as a rule, than those from production with the use of ordinary forms of raw material. Savings are derived by reducing costs of extracting, transporting and reprocessing the initial raw material and by reducing costs of collecting and storing wastes without mentioning the fact that damages from industrial pollutions are eliminated.

The State Plan of Economic and Social Development of the USSR for 1981--1985 and for the period up to 1990 contains targets for developing and introducing more than 30 new technological processes for reprocessing industrial and household wastes. Some ministries, especially the USSR Ministry of the Coal Industry and the USSR Ministry of the Food Industry, have approved complex sectoral programs for developing low-waste and waste-free technological processes. Probably, it is time to provide for all conditions required for working out and introducing such productions within the framework of annual and five-year plans.

At present, the scale of research developments and, especially, the scale of introduction into production still do not meet the requirements for environmental protection and rational use of natural resources. In many cases, promising technological processes remain at the laboratory stage for many years without being tested at experimental industrial installations. Examples of this include production of sulfuric acid from waste gases of thermal electric power stations; complex reprocessing of pyrite cinders with separation of non-ferrous and precious metals; reprocessing acid tars to produce sulfuric acid and asphalt; use of meat combine waste waters to produce protein substances etc.. The absence of experimental testing prevents transition to the design and construction of industrial productions with low-waste regimes of operation. Therefore, all industrial union and republican ministries must provide for base enterprises at which such innovations can be tested.

Some academic scientific research institutions of the RSFSR and of other union republics already have experience in introducing low-waste technological processes. However, on the whole, the interaction of academic and sectoral institutes with industry still needs great improvement.

The last word, even with the most highly perfected methods of planning and technological solutions, belongs to man. The introduction of waste-free production requires not only the availability of special knowledge but also creative enthusiasm and the will to overcome the psychological barrier associated with rejection of the habitual distinction: "our" production and "another's" waste. This calls for a wide range of activity by the most diverse organizations including the All-Union Council of Scientific and Technical Societies, the All-Union Society of Inventors and Efficiency Experts, "Znaniye" societies and sectoral institutes for advanced training.

The transition of the national economy to low-waste production is a complex problem. However, it must be solved in a short period of time with the use of all of the advantages of the socialist system of planning and this requires decisions by the party and the government.

2791
CSO:5000/86

CONTAINMENT OF PESTICIDE TOXICITY IN TADJIKISTAN

Dushanbe SEL'SKOYE KHOZYAYSTVO TADZHIKISTANA in Russian No 1, Jan 83 pp 57-59

/Article by A. Ya. Yakubov, candidate of Medical Sciences (Tadjik Scientific-Research Institute of Epidemiology and Hygiene): "Environmental Protection and Preventure Measures Against Toxic Chemical Contamination"/

/Text/ A systematic campaign against pests and plant diseases by use of special chemical compounds (toxic chemicals) is a significant factor in increasing the yield of agricultural crops.

However, toxic chemicals, being biologically active with regard to various plants and animals, also have a toxic effect on the human organism. Toxic chemical contamination occurs when precautionary measures are ignored and when rules for personal and social hygiene are broken. This may occur during improper storage, distribution and transportation of toxic chemicals, when spraying plants, during work on treated areas or areas under treatment and also among a populace which is temporarily inside a chemical treatment zone.

To take successful preventive measures against toxic chemical contamination, one must know about their toxic properties, the methods and means for their application, the particulars of the machinery and compounds which are used for their application, which toxic chemicals and in what quantities are to be used over specific territories and to have information about the residual amounts of toxic chemicals within environmental units. It is also necessary to consider that toxic chemicals have various applications and are used within various geographical and topographic zones.

The problem of environmental protection and preventive measures against toxic chemical contamination among working people from the rural populace have acquired particular urgency in association with the intense economic development of new territories. This is particularly important for the Asht, Dangara and Beshkent Valleys, where, in connection with flooding and resettlement of people from other oblasts into these regions and the construction of major settlements, the concentration of the population and intense development of cotton production are occurring. Therefore the approach to identifying contamination of environmental units with toxic chemicals and preventive measures against contamination should be determined by the specific conditions for the region: geographical, social, economic and other factors.

A study of the use of toxic chemicals in various geographical and topographic zones of the TaSSR permitted us to establish the relationship of toxic chemical consumption as a function of the technology for crop cultivation. Pesticides are not only used to control pests and plant diseases (along with biological defensive measures); they are most frequently used as defoliants, dessicants and herbicides.

The annual volume and assortment of toxic chemicals being consumed and the means for their application in regions located within the various zones of the republic can serve as a criterion to evaluate contamination of farm territories with pesticides. This criterion has important hygienic significance in solving the problem of protecting the environment from toxic chemical contamination and for dividing the republic territory into various zones of "pesticide contamination."

The danger in pesticide effects immediately during the process of field work and instances of contamination of agricultural workers by them are often associated with the fact that periods for not going out to work on treated fields are not observed, or else these time periods are established without taking regional features into consideration. Laying the foundation for such time periods requires a strictly differentiated approach, taking into consideration a number of factors, among which the following are extremely substantial, but not always taken into consideration: features of climatic-geographic conditions, as well as specific features of the agricultural crop cultivation technology.

An agronomist-entomologist and the kolkhoz or sovkhoz brigade leader, having gained approval from a public health physician, should monitor the observation of established periods for staying out of fields after pesticide treatment.

The lack of a safety zone between the settlements and water sources and the territories being treated and of precise regulation of sanitary engineering and technological measures to prevent pesticides from drifting onto neighboring territories are other no less important factors determining the danger of pesticide effects on the populace.

Kolkhoz and sovkhoz managers should establish protective zones between the territory being treated and the settlements.

Pesticides disperse to greater territories than those which have been chemically treated. When cotton plants are dusted using an on-the-ground method, toxic chemicals are detected at distances from 50-300 meters from the treatment site, and when an aerial method is used, pesticides spread over a distance of up to 1.6-3 kilometers. Under hot climatic conditions, when the air temperature reaches 40-42°C and 50-60°C and more on the earth's surface, phosphamide and GKbTsC [hexachloro-cyclohexane] evaporate from the treated surfaces during a lengthy period of time and cause secondary contamination of the air. In the air over treated fields, the highest concentrations of toxic chemicals were determined during the first 4 hours after treatment. But it is not just toxic chemical contamination of the air that represents a danger to man, but also of the water and produce for food as well. Nevertheless, as measurements show, the concentration of pesticides in the air is 6-8 times greater than in water and 8 times greater than in produce for food.

In connection with these basic preventive measures directed toward preventing contamination of the atmosphere, the following should become universal: shifting to the use of granulated forms of pesticides; creation of a sanitary-protective zone between the territory being treated and inhabited settlements; prohibiting evening chemical treating; reducing the volume of aerial treatment of plants; regulation of work conditions, and replacing strong, highly toxic and stable pesticides with less toxic and unstable compounds. It is advisable to select from among the large assortment of pesticides those which are of low toxicity from a hygienic point of view but which are effective from a production point of view.

The public health service for the rayons, as well as departmental laboratories of "Sel'khozkhimiya" /Agricultural Chemical Enterprise/ and the Ministry of the food industry should monitor the contents of residual pesticide quantities in the air, the water and produce for food.

It is necessary to take measures to increase the professional level of knowledge of accident prevention among workers when working with pesticides.

Drawing up a special map of the region reflecting pesticide contamination within the territory of individual brigades, farms and the region as a whole is one of the important hygienic measures in preserving the environment from pesticide contamination and for taking preventive measures against the unfavorable effects of the family of pesticides in use on the health of the populace. Having such a map at one's disposal, it is possible to make a medical-geographical description of the territories of the region and, in a critical situation, to take prompt measures to reduce the application of or to replace particularly dangerous pesticides; to establish public health protection zones for settlements and to recommend methods and a time for performing chemical plant-protection operations; to separate into regions specific territories with particularly dangerous contamination levels; to select "stationary points" within these territories and organize dynamic observations over residual pesticide content within the various environments and to plan differentiated measures directed toward reducing the contamination level of specific units in the environment by pesticides within individual agricultural production zones.

Incorporation of scientific recommendations in agricultural practices and strict observation of the rules for toxic chemical application are effective measures for improving sanitary conditions within the environment and for preventive measures against the unfavorable effects of toxic chemicals on the populace.

COPYRIGHT: "Sel'skoye khozyaystvo Tadzhikistana", 1983

9194

CSO: 5000/85

ACCOUNT OF ATMOSPHERIC TESTING TO DETECT TOXIC MATTER

Tallin SOVETSKAYA ESTONIYA in Russian 30 Mar 83 p 3

/Article by R. Priyman and L. Visnapuu, senior scientific workers from the laboratory of physics of protecting the environment at Tallin State University: "Concerning Ions, Aerosols and Pollution of the Atmosphere"

/Text The air of the atmosphere is a key condition for the existence of biological systems. There is always an adequate amount of oxygen in clean air. Expended oxygen is restored through the process of the exchange of substances in plants and microorganisms which live both on land and in the oceans.

The development of industry and technology, and also the growth in population, are accompanied by an increase in the consumption of oxygen, which has become necessary for many technological process, the functioning of transportation systems, and the life of biological beings. Moreover, due to man's activity the pollution of the air basin is occurring to a greater extent than it is due to natural sources of pollution such as the eruptions of volcanoes, dust from the surface of the earth, forest and steppe fires, etc. Although there is certain amount of self purification in the air and in the sources of water, one must remember that the increasing pollution of the environment can bring about irreversible changes in the processes of nature. In all developed nations, including the Soviet Union, measures are being taken to limit the pollution of the air basin and to protect the environment.

The pollutants enter the air in the form of gases or aerosols (smoke or dust). Along with components of pure air they to a greater or lesser degree participate in the physical and chemical processes which take place in the atmosphere.

Ions of air have an effect upon plant and animal organisms, including man. It has been detected that positive and negative ions of air have different effects upon the processes of the exchange of substances. For example, negative ions of unpolluted air stimulate the vital activity of a healthy organism and have a favorable effect in connection with many illnesses. For example, the presence of predominantly

negative ions in waterfalls has a healthy effect in connection with functional disorders of the nervous system. For certain other illnesses the opposite is true, positive ions have a healthy effect. However, according to the majority of research one can conclude that the predominance of positive ions of air causes in some people a fatigue of the nervous system and causes a deterioration in the overall condition of the organism. For example, the appearance of the so-called "mountain sickness" is connected with the predominance in the air of positive ions.

Research shows that in the Baltic region the optimal level of natural ionization of the air takes place during the summer. The predominance of negative ions of the air takes place during clear weather in the forest and prior to the rising of the sun near reservoirs, and particularly at the sea shore.

The regular measuring of the ionization level of the air plays an important role in the organization of protecting the environment and the health of people. The mobility of air ions depends upon the concentration of aerosols in the atmosphere and their chemical and physical characteristics.

Natural aerosols are formed during the action of heavy waves in large bodies of water and the processes of decay and volcanic activity, and animal and plant vital activity, and the dusting of the earth's surface. For example, forests, particularly coniferous forests, release aerosols of different essential oils into the air.

Artificial polluting aerosols are the products of combustion (smoke and dust), which come into being from the means of transportation, and in industry and construction. This includes photochemical smog (a mixture of gases and aerosol particles containing organic composites of nitrogen), which is formed in chemical reactions of nitrogen and carbon oxides under the influence of ultraviolet radiation of the sun. The possibility of the formation of photochemical smog is considerably greater in the southern regions in sunny weather.

It has been established that, for example, 70 to 80 percent of the tetraethyl lead, which is added to gasoline, is released into the air with exhaust gases. For this reason the lead content in plants growing near highways is ten times greater than in plants which grow far from roads. To decrease the amount of lead in field crops and grasses growing near highways one can plant a living hedge near the roads, which moderates the aerosol particles, which are released with the exhaust from motor vehicles. For this reason such plantings should be maximized, particularly along highways.

In order to preserve the purity of the air man must learn to restrict the amount of harmful aerosols entering the atmosphere to an extent that it will not disturb the natural circulation of substances. The monitoring (observation) of the atmosphere serves these goals, including for toxic aerosols, which are bringing about a degree of harm to the biosphere.

Research on the processes of atmospheric ionization and the quantitative changes of its varying characteristics in connection with changes in the aerosol composition of the air makes it possible to determine the potential limits for the self purification of the atmosphere, which is included in the scientific foundations for protecting the atmosphere. This developing field of science makes it possible in turn to manage man's activity in an organized manner so that the harm done to the natural environment remains within the limits of being self-purified in the natural world.

At the Tartuskiy University questions having to do with preventing the pollution of the atmosphere and monitoring this problem have for many years been studied by the Problems Laboratory for Aeroionization and Elektroaerosols. Out of the 100 inventions that have been created here, nearly one third have been devoted to devices or instruments for measuring aeroions. Ya. Reynet, Kh. Tammet and Ya. Sal'm, workers at the laboratory, have developed several modifications of such instruments; and through economic contracts they have manufactured nearly 100 models for various scientific-research institutes and organizations. Unfortunately, the fact that they do not have their own experimental base does not permit the Tartuskiy University to meet the growing demand for these instruments, which are needed to perform a hygienic evaluation of air in work facilities and in the environment. The plants are not inclined to manufacture these instruments, which, in their opinion, are too complicated in design, require careful adjustment and can only be sold in an amount of about 1,000 models per year.

The Problems Laboratory for Aeroionization and Electroaerosols has for more than ten years studied the possibilities of improving the methods for researching atmospheric-electrical phenomena and conducting the appropriate measurements in field conditions; the laboratory is also studying the electrical parameters of air in production facilities. Within the framework of CEMA the laboratory has done quite a bit of work on the problem of the "global system for monitoring the environment", and in the course of this work it has developed proposals for methods of measuring aeroions. In order to research the degree of pollution of the atmosphere a series of measurements of atmospheric ionization at polarographic stations and in recreational and industrial regions, have been made.

The need to perform polarographic and atmospheric and electrical measurements was brought about by the steadily growing aerosol pollution of the atmosphere. Ya. Reynet, Kh. Marran and P. Pryuller, workers at the laboratory, conducted long-term measurements of natural ionization of the atmosphere in the 1950's and 1960's: their goal was to obtain a comprehensive ionization and meteorological characteristic of the air of the atmosphere. Reliable data were obtained regarding the normal natural ionization of air in the near-ground layer of the atmosphere; and 24-hour and annual variations in the concentration of ions were made more precise. Their work also clarified the overall structure of the spectrum of ions and the connection between atmospheric ionization and meteorological elements.

In recent years, R. Matizen, M. Arol'd and other workers from the laboratory have measured various parameters of atmospheric electricity in game preserves such as the "Borovoye" in the Kazakh SSR, near Novo-Pyati-gorsk in the Northern Caucasus, on the southern shore of the Crimea, on Vilsandi Island and other regions. Local correlating connections were found between concentrations of individual groups of ions.

In order to perform more applied research on the pollution of air and on improving its hygienic parameters in closed facilities at the laboratory base of aeroionization and electroaerosols since February of this year a laboratory of the physics of protecting the environment has been created.

4927

CSO: 5000/87

DENMARK

POLLUTION DRAIN OFF FROM LAND KILLING SEA LIFE IN WATERS

Copenhagen AKTUELT in Danish 25 Mar 83 pp 12-13

[Article by Carl-Johan Rosenberg: "The Desert Lies Below"]

[Text] Just as the Sahara is swallowing more and more ground in Africa, barren areas are spreading here at home, too. Denmark has its deserts -- they lie at the bottom of the sea.

In more and more fjords, coves, and shallow bays the same picture is forming: the bottom is covered by a thick layer of inky black ooze. The vegetation is gone, and with it all the small animals that used to swarm in the eelgrass and other growth, and that formed the food base for the larger animals.

On this oxygen poor bottom sulphur bacteria thrive. But one must look hard for higher forms of life. Only when the hydrogen sulphide from the dead ooze is given off now and then and sends a stench of rotten eggs in over the coast is there a little movement in the mouldy layer that otherwise covers the bottom.

"Bottom turns" is what it is called when the ooze from time to time whirls up in this way.

Lack of Oxygen

The lack of oxygen is the key to understanding these undersea deserts. The lack of oxygen is caused by the large amounts of industrial salts deposited in the inner waters from the land, but also from the air. Phosphorous and nitrogen compounds cause the algae growth to run amuck. The many algae die after awhile and sink to the bottom. When they decay, oxygen is taken from the water. The ooze, the remains of the decay, contributes to the choking off of oxygen producing vegetation on the bottom, and in this way the lack of oxygen becomes even worse.

The result can be that a large number of fish are simply suffocated and washed up on shore.

"The situation is dramatic and is naturally discussed a great deal. But I think that it is so serious that larger and larger areas of our shore waters are being covered by these undersea deserts, and in this way the food base for

many fish is being destroyed," Peder Agger said. He is an instructor in ecology and chairman of the Environmental Protection Commission.

Catastrophically Bad Fishing

Fishing in the inner Danish waters has declined dramatically. There are certainly many reasons for this, but it is certain that industrial salts and the disappearance of oxygen form part of the explanation.

Bottom turns are old phenomena. They are particularly well known from quiet summer days in Limfjord. But the number and extent of them have increased tremendously in recent years. In recent summers one has even confirmed similar processes in more open waters. Clearly the situation is about to become critical.

"We don't know how much has been destroyed, but I think the problem has become general in almost all of our closed waters," Peder Agger said.

Together with pollution of the environment through the air, he does not hesitate to mention pollution of the sea environment with industrial salts as our worst environmental problems.

Layers of Ooze Choke all Life

Borge Christensen, consultant for the Sport Fishermen's Union, feels the same. The only bright spot he can see is Kolding Fjord. Here the environment has improved since the city's mechanically cleaned sewage has been discharged for some years now into the fjord and directly out into the Lillebaelt current.

But otherwise, layers of ooze are choking more and more life -- in Arhus Bay, in the Mariager Fjord, at Vejle, in the Odense Fjord, etc.

According to Borge Christensen, the ooze layer from one season's growth of algae can reach 30 centimeters' thickness where the industrial salts are most concentrated.

Local investigations definitely do not justify much optimism: In the course of ten years the vegetation has disappeared in the first 17 kilometers of Randers Fjord. The bottom plants in large areas of Ringkøbing Fjord have died. The limit for vegetation in the shallow Roskilde Fjord has risen two meters since the 40's because the spreading algae growth is taking away the light. The fjord's flora have changed markedly. A massive sea salad and reed growth is now coming up on land, decaying on the beaches and creating bad odors. At the bottom of the Isefjord the problems are generally the same.

Deserts to be Mapped

In Limfjord the bottom turns are becoming more and more extensive. The algae growth has affected the fjord so much that the visible depth in the summer has declined by a half meter. Even in the west coast, oxygen loss has been noted. Dead fish on the beaches must gradually be considered a regular part of the



The two pictures were taken at the same place at the bottom of Isøfjord with a year in between. The picture above is from 1981 and shows a natural bottom fauna with, among other things, starfish and sea anemones. In 1982, lack of oxygen has destroyed this life. The dead viviparous blenny in the middle of the picture on the next page is about to be overgrown by a layer of dead bacteria and algae.



Danish late summer when the weather conditions often function as "the finger on the trigger."

Environmental authorities are preparing for action. The recently published figure on the discharge of industrial salts is part of this work. But there is a continual lack of a national evaluation of the environmental quality in the inner Danish waters -- a map of our undersea deserts, if you like. This will make it possible to evaluate the rate the desert is spreading.

Such a map has also been asked for by the workers at the Sea Pollution Laboratory under the Environmental Commission. They cannot make it themselves.

The inner Danish waters are divided by counties that have not yet been able to join forces in this area.

[Article by Carl-Johan Rosenberg: "Farms and Cities Discharge 600,000 Tons of Waste each Year"]

[Text] An essential part of the environmental problems in our fjords and bays is that these waters are burdened with a yearly deposit of 600,000 tons of industrial salts and organic matter from the land.

For the first time the collected discharge into the inner Danish waters has been calculated. A completely new report from the Environmental Commission indicates that the farms are mainly responsible for the nitrogen compounds, while the phosphorus salts are mainly delivered to the sea from the waste water of the cities. It is these two forms of compounds that together determine the growth of plankton algae. In recent years there have been far too many of them. The many algae decay and take the oxygen from the water. Layers of dead fish on the beaches is one of the many symptoms of the process.

Nitrogen Pollutants

In round numbers the report gives the sources of nitrogen deposits in this way:

Forty percent from farming areas, forests, heaths, etc.

Twenty-five percent from farm houses and scattered buildings in the open country.

Thirty percent from city waste water.

Five percent from industries with direct discharge into the sea.

The corresponding figures for phosphorus discharges are:

Five percent from farming areas, forests, heaths, etc.

Ten percent from farm houses and scattered buildings in the open country.

Seventy-five percent from city waste water.

Ten percent from industries with direct discharge into the sea.

Of the organic compounds, 80 percent come from the cities, 20 percent from the farms and scattered buildings in the open country.

Workers at the Environmental Commission's Sea Pollution Laboratory have already said that in the inner waters it is mainly the amount of nitrogen salts that set the upper limit for the unhappy growth of algae, a growth that particularly causes problems in quiet and warm periods in the summer. Because of this, interest is growing in agricultural waste.

Illegal Discharges

A fourth of the nitrogen discharges coming from buildings on land come over a wide area from illegal discharges of sewage water, liquid manure, and such. This evaluation is not in the report. It was made a few weeks ago by the director of the Environmental Commission, Jens Kampmann. On this basis he asked at the same time for stronger efforts against precisely this kind of agricultural pollution.

With a sense of timing, agriculture released a few days ago its version of the situation surrounding the discharge of nitrogen and phosphorus. Without going into the illegal discharges from farm houses, the agriculture report says that the farm industry has no special responsibility for the lack of oxygen along our coasts.

In spite of the increasing use of artificial fertilizers, agriculture's nitrogen discharge has hardly changed much in the last sixty years. It must be the increased amounts of phosphorus from the cities that alone bear the responsibility for the increasing pollution, according to the agriculture report.

Waiting for a New Report

The new report from the Environmental Commission is only a part of the basis that must be formed before decisions can be made on combatting agricultural and other pollution of the inner waters.

"For six months we have been waiting for a report to be completed that will clarify the significance of discharge for the situation in our inner waters," civil engineer Johan Hougs Moller of the Environmental Commission said.

Until then we do not have a collected basis to evaluate, for example, the role of nitrogen in relation to phosphorus.

AKTUEL: But agriculture can already do that. Are they more efficient than you?

Moller: I don't want to say anything at all about this.

9124

CSO: 5000/2567

MINISTRY ESTABLISHING LABORATORY TO ANALYZE SOIL POLLUTION

Copenhagen BERLINGSKE TIDENDE in Danish 14 Apr 83 p 3

/Article by J. S. Kjaergaard: "Ministry Will Keep an Eye on the Sea and Land"/

/Text/ The Environmental Ministry is going to establish a laboratory that will be concerned primarily with the pollution of Denmark's soil and also with the role of agriculture in nitrate pollution of drinking water and of Danish ground waters.

This was announced by Minister Chr Christensen yesterday at the conference "The Sea Around Denmark." The conference was held in connection with the annual meeting of the Environmental Protection Society in Christiansborg.

"The laboratory will be able to draw upon the considerable amount of expertise in the Ministry of Agriculture," Chr Christensen went on. "We have received good cooperation and everyone should be interesting in acquiring better information about soil pollution."

"Finding the correct solutions to the environmental problem is difficult. All water takes part in a powerful cycling and harmful substances often turn up far from the place where the pollution occurred. What we know for certain is that we do not know enough."

"The problems are interconnected," the minister continued. "During the second half of 1981, oxygen disappeared along many parts of the Danish coast and fish died in large numbers. The Environmental Administration was asked to find out the cause and should be prepared to answer by now. There have, however, been delays. We do know some things, nonetheless. It has turned out that the subterranean waters are loaded each year with 600,000 tons of table salt and organic materials from urban sewage and agricultural field runoff. The soil laboratory will naturally provide us with more knowledge in this area."

"We do not know whether or not the problem will spread from the coastal waters to the sea around Denmark. We also need more research in this area," said Minister Chr Christensen.

"Many people, however, have read in newspapers about a more direct danger, namely pollution from Seveso and the Grindstedvaerket dumping. We are in

agreement in Denmark that the ocean should not become a dumping ground and we seek for international understanding in this area and can at least say that Denmark will not cast toxic substances into the sea. The question of Grindstedvaerket and of government control over dumping has not been looked into thoroughly. I am satisfied with the investigation," said the environmental minister. "Whatever the explanations, we may be sure that the like will not occur again."

"Regulations will save public expense," concluded Chr Christensen. "But we will not slack in our efforts to achieve quality in the Danish environment."

Chief Advisor Frank Bennetzen denied the assertion at the conference that it is agricultural nitrogen fertilizer that is pouring into Danish waters.

He also emphasized that curtailment of the use of chemical fertilizers would have "catastrophic consequences in terms of yields and likewise for farmers and for Denmark's economy."

Frank Bennetzen also said that agriculture does not wish to hide unlawful disposals.

9857

CSO: 5000/2565

GOVERNMENT PROPOSES TO DIG UP, CLEAN UNDERGROUND WASTE

Copenhagen BERLINSKE TIDENDE in Danish 13 Apr 83 p 7

/Article by Helle Ravn Larsen: "Danish Underground Dug Up for Toxins"/

/Text/ Toxic waste dumps will be dug up in Denmark since damage from seepage has been enormous.

Environmental Minister Chr Christensen announced yesterday after a ministerial meeting that the government will propose a law apportioning the tasks and the expenses for excavation between the state, counties and communities.

"The most important thing is that we avoid greater environmental damage. Later the authorities may attempt to recover funds from polluters," said Chr Christensen.

It will be the state that shall, in the first instance, pay what it costs to dig up the toxic wastes to avoid a pollution catastrophe.

In addition, the state will aid the poorest communities so that they shall at the most have to contribute 0.2 percent of their tax base for anti-pollution efforts.

"We felt ourselves constrained to leave the limitation at 0.2 percent for communities since many smaller communities, especially in Jylland, will otherwise have to bear large outlays. Small communities--large waste deposits," said Chr Christensen.

The minister thinks that the law could go into effect on 1 July of this year, so that the work can begin quickly.

The background to the proposed law is found in an investigation of the Environmental Administration that showed that ground water is in danger in many places. It will take a good ten years to bring the seepage from dumps under control and will cost 400 million kroner.

9857
CSC: 5000/2565

DENMARK

BRIEFS

CONCERN OVER LEADED GASOLINE—Moving the deadline for lowering the lead content of high octane gasoline forward, from 1 July 1984 to 1 July 1983, has been proposed in a bill by the Social Democrats and the Socialist People's Party. The two parties will thereby attempt to do something about lead pollution a year earlier. /Text/ /Copenhagen BERLINSKE TIDENDE in Danish
14 Apr 83 p 2/ 9857

CSO: 5000/2565

INTERIOR MINISTER WANTS CLEANER AUTO EXHAUST

Frankfurt/Main FRANKFURTER ALLGEMEINE in German 26 Apr 83 p 11

[Article by K. B.: "Zimmermann Wants to Reduce Noxious Substances in Exhaust Gas--Introduction of Unleaded Gasoline Disputed--Conversation with Industry"]

[Text] Bonn, 25 April--Federal Interior Minister Zimmermann is urging the auto industry to speed up its efforts to reduce noxious substances in exhaust gas. In a conversation in the Interior Ministry, Zimmermann on Wednesday wants to learn from representatives of the auto industry which technically and economically justifiable solutions are available within a short period of time in order to build more environmentally safe motor vehicles. He wants to assign targets to industry and he wants to get commitments from it. In particular, the boundary values of nitric oxide are to be definitely reduced, Zimmermann demanded. For the first time representatives of the mineral oil industry are also directly involved in a Bonn conversation on the reduction of noxious substances in exhaust gas. They are to comment on the disputed proposal to introduce unleaded gasoline. When unleaded gasoline is used, it is possible to employ catalysts with which exhaust gas pollution can be considerably reduced.

The introduction of unleaded gasoline was proposed to the appropriate federal ministries about a month ago by BMW (Bavarian Motor Works) on a go-it-alone basis. BMW considers the switch to unleaded gasoline to be the clearest decision, in terms of environmental policy, with which every driver would become aware that a price has to be paid for environmental protection. The catalyst would cost an additional DM1,200-1,250. BMW feels that the "unleaded market" has been sufficiently tested in the United States. Switzerland and Sweden want to follow in this effort according to their current plans. British Environmental Minister Tom King has just announced in the House of Commons that, at the very latest, by 1990, all cars licensed in Great Britain would have to be operated with unleaded gasoline.

BMW's competitors do not deny that the introduction of unleaded gasoline is technically possible. But they maintain that there is no uniform market for that in Europe, in contrast to the United States. The French and Italian governments have already indicated that there would be no switch to unleaded gas in their countries. This in particular is intended to take into consideration the producers of smaller cars, where the cost share for the catalyst would be greater. If fuel is not available everywhere in Europe for cars that need unleaded gasoline, mobility would be severely restricted.

Zimmermann agreed with the auto industry to the effect that environmentally safer cars, based on a European coordination effort, if possible would have to be placed on the highway also in coordination with the neighboring CEMA countries. On the other hand, the interior minister thought that difficulties in coordination should not be a reason for postponing environmental policy decisions. Zimmermann obviously wants to insist on exhausting all technical possibilities if it should not turn out to be possible gradually to introduce lead-free gasoline and catalysts in Europe likewise. So far, the auto industry had already in a conference with Zimmermann's predecessor Baum declared itself ready "gradually and voluntarily to reduce" the noxious substance quantities in the exhaust gas from passenger cars. During the last summit conference in the middle of 1981, however, it rejected Baum's demand as "technically not feasible" when he suggested that the boundary values be reduced by 50 percent.

According to the overall concept developed by the Federal Interior Ministry, the reduction of exhaust gases is part of an entire group of measures aimed at keeping the air clean. Two parts of the "Technical Guidelines for Clean Air" are already in force. The big furnace system decree is to be approved in the Upper House on Friday of this week to limit the expulsion of noxious substances at the source.

5058

CSO: 5000/2570

FIRM QUIETLY REMOVES 2,4,5-T CONTROL SUBSTANCE FROM MARKET

Helsinki HELSINGIN SANOMAT in Finnish 14 Apr 83 p 30

[Article: "Same Poison Used in Finland"]

[Text] Proven to be the most dangerous chemical used in Vietnam, 2,4,5-T is not banned in Finland. It was used continuously in spraying underbrush here for almost 10 years longer than in Vietnam. Originally 2,4,5-T was developed as a chemical weapon.

About 100 tons a year of the herbicide 2,4,5-T were used in Finland. It was withdrawn from the market in early 1980, at a time when data on how dangerous it is had already long been available. Weak solutions had caused cancer and embryonic damage to test animals under laboratory conditions.

The use of herbicides has been discontinued in Finland for two summers now. In anticipation of new herbicides, lumber companies are getting ready to start aerial spraying again this year or next year — this time with new substances which are suspected of being dangerous to human beings, but about which, when all is said and done, little is known.

Dangerous Poison

One of the chief substances used in Finnish brush spraying has been 2,4,5-T, whose dangerous, polluting agent is TCDD dioxine. It is estimated that there is even as much as 30 grams of dioxine on the average in a ton of 2,4,5-T.

TCDD dioxine is released into the air when brush herbicides are dissipated by burning. The same toxic substance is released when wood that has been impregnated with chemical preservatives is burned and in the manufacture of hexachlorophene soap.

The same extremely dangerous dioxine was discovered in the Seveso accident in Italy in 1976. The whole town had to be evacuated when due to an explosion a plant released the toxin into the air and it later settled on the ground.

"They Do Not Know What the Situation Is"

Prof Pekka Nuorteva, the director of the Helsinki University Environmental Protection Institute, told us that quite a lot of herbicides, and of the same types of compounds as those used in Vietnam, have been disseminated over Finland. It is, however, difficult to make quantitative comparisons because the TCDD content of the commercially used compound is much lower than that used by the military.

They do not know exactly what the situation is in the natural environment in Finland. "It's impossible to detect the toxin in human beings with the usual devices. For a long time there was no means at all of analyzing such substances in Finland. Now we have acquired one costly device which is, however, used chiefly for other purposes."

TCDD is a poison that becomes concentrated in the natural environment. Nuorteva said that they do not yet know how it proceeds in the food chain nor how many times over it is concentrated.

"Neither Banned Nor Destroyed"

"Kemira has quietly withdrawn 2,4,5-T from the market. Since it has not been outright banned, they did not have to admit either that the conservationists have been right the whole time."

According to Nuorteva, it is hard to destroy the substance and they have not tried to collect it for the purpose of destroying it either. "We considered it best for the forest owners to distribute it evenly over Finland's natural environment. The substance had already been banned in Sweden before then and malicious tongues say that the remainder of the stock or hand was brought here at that time."

Nuorteva said that during the Vietnamese War he had warned that after the war we here and the world would have a problem because of those same toxic substances.

"And that's what happened too. A profitable industry had sprung up in the United States and most of the 2,4,5-T it produced went to Vietnam. When that market folded at the end of the war, the product was marketed elsewhere for normal [peacetime] use."

11,466
CS0: 5000/2564

- END -

END OF

FICHE

DATE FILMED

May 25, 1983